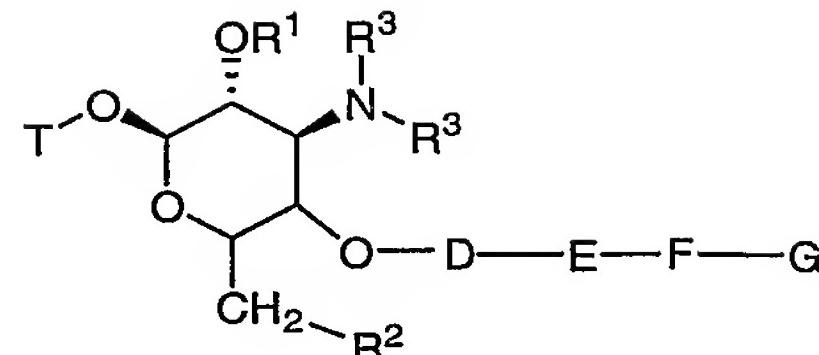
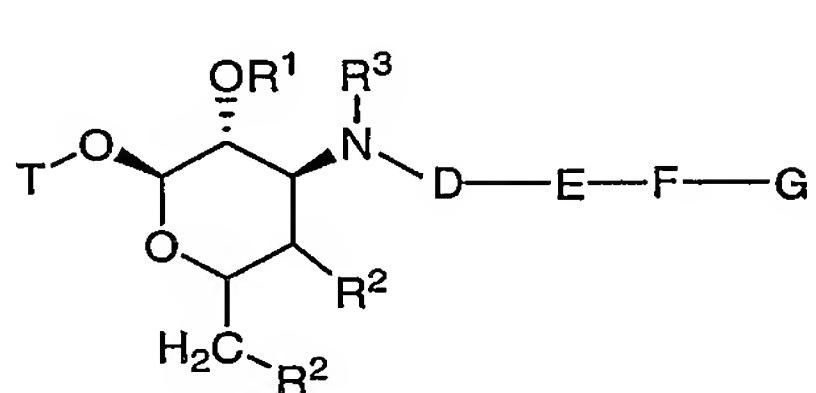


## CLAIMS

1 What is claimed is:

1 1. A compound having the formula:



2 I

or

II

,

3 or a pharmaceutically acceptable salt, ester, *N*-oxide, or prodrug thereof,

4 wherein

5 T is a 14-, 15-, or 16-membered macrocycle connected via a macrocyclic ring carbon atom;  
 6 R<sup>1</sup> and R<sup>3</sup> independently are selected from the group consisting of: (a) H, (b) a  
 7 C<sub>1-6</sub> alkyl group, (c) a C<sub>2-6</sub> alkenyl group, (d) a C<sub>2-6</sub> alkynyl group, (e) -C(O)R<sup>5</sup>,  
 8 (f) -C(O)OR<sup>5</sup>, (g) -C(O)-NR<sup>4</sup>R<sup>4</sup>R<sup>4</sup>, (h) -C(S)R<sup>5</sup>, (i) -C(S)OR<sup>5</sup>, (j) -C(O)SR<sup>5</sup>, or (k) -C(S)-  
 9 NR<sup>4</sup>R<sup>4</sup>R<sup>4</sup>;

10 R<sup>2</sup> is hydrogen or -OR<sup>12</sup>;

11 D is selected from the group consisting of:

12 (a) a single bond, (b) a C<sub>1-6</sub> alkyl group, (c) a C<sub>2-6</sub> alkenyl group; (d) a C<sub>2-6</sub> alkynyl  
 13 group; (e) -C(O)-X-, (f) -C(O)O-X-, (g) -C(O)NR<sup>4</sup>R<sup>4</sup>-X-,  
 14 (h) -C(=NR<sup>4</sup>)-X-, (i) -C(=NR<sup>4</sup>)O-X-, (j) -C(=NR<sup>4</sup>)N-X-,  
 15 (k) -SO<sub>2</sub>-X-, (l) -C(NR<sup>4</sup>)NR<sup>4</sup>-X-, (m) -C(S)-X-,  
 16 (n) -C(S)NR<sup>4</sup>-X-, (o) -C(NR<sup>4</sup>)S-X-, or (p) -C(O)S-X-, wherein

17 i) 0-2 carbon atoms in any of (b)-(d) of D immediately above  
 18 optionally is replaced by a moiety selected from the group  
 19 consisting of O, S(O)<sub>p</sub>, and NR<sup>4</sup>,

20 ii) each of the groups (b)-(d) immediately above optionally is  
 21 substituted with one or more R<sup>5</sup> groups,

22 iii) alternatively when R<sup>5</sup> is present as an optional substituent on (b)-  
 23 (d), R<sup>3</sup> and R<sup>5</sup> can be taken together with the atoms to which they  
 24 are attached to form a 3-7 membered ring, and

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- iv) X is selected from the group consisting of (aa) a C<sub>1-6</sub> alkyl group, (bb) a C<sub>2-6</sub> alkenyl group, or (cc) a C<sub>2-6</sub> alkynyl group, wherein each of groups (aa)–(cc) optionally is substituted with one or more R<sup>5</sup> groups;

F is selected from the group consisting of:

- (a) a single bond, (b) a C<sub>1-6</sub> alkyl group, (c) a C<sub>2-6</sub> alkenyl group, (d) a C<sub>2-6</sub> alkynyl group, wherein

- i) 0-2 carbon atoms in any of (b)-(d) of F immediately above optionally is replaced by a moiety selected from the group consisting of O, S(O)<sub>p</sub>, and NR<sup>4</sup>,
  - ii) any of (b)-(d) of F immediately above optionally is substituted with one or more R<sup>5</sup> groups, and
  - iii) any of (b)-(d) of F immediately above optionally is substituted with C<sub>1-6</sub> alkyl-R<sup>5</sup> groups;

E is selected from the group consisting of:

- (a) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,

(b) a 3-10 membered saturated, unsaturated, or aromatic carbocycle,

(c) a  $-W-[$ 3-10 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur],

(d) a  $-W-[$  3-10 membered saturated, unsaturated, or aromatic carbocycle],

(e)  $-C(O)-$ , (f)  $-C(O)O-$ , (g)  $-C(O)NR^4-$ , (h)  $-C(=NR^4)-$ ,

(i)  $-C(=NR^4)O-$ , (j)  $-C(=NR^4)NR^4-$ , (k)  $-OC(O)-$ , (l)  $-OC(O)O-$ ,

(m)  $-OC(O)NR^4-$ , (n)  $-NR^4C(O)-$ , (o)  $-NR^4C(O)O-$ ,

(p)  $-NR^4C(O)NR^4-$ , (q)  $-NR^4C(=NR^4)NR^4-$ , (r)  $-S(O)_p-$ ,

(s)  $-NR^4S(O)_2-$ , (t)  $-S(O)_2NR^4-$ , (u)  $-C(N-OR^4)-$ , (v)  $-CH_2-$ ,

(w)  $-C(N-NR^4R^4)-$ , (x)  $-C(S)NR^4-$ , (y)  $-NR^4C(S)-$ , (z)  $-C(S)O-$ , or

(aa)  $-OC(S)-$ , wherein

i) any of (a)-(d) immediately above optionally is substituted with one or more  $R^5$  groups; and

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- 57           ii) W is selected from the group consisting of:  
58           (aa)  $-\text{OCO}-$ , (bb)  $-\text{OC(O)O}-$ , (cc)  $-\text{OC(O)NR}^4-$ ,  
59           (dd)  $-\text{NR}^4\text{C(O)O}-$ , (ee)  $-\text{OCNOR}^4-$ ,  
60           (ff)  $-\text{NR}^4\text{C(O)O}-$ , (gg)  $-\text{C(S)(NR}^4)-$ , (hh)  $-\text{NR}^4-$ ,  
61           (ii)  $-\text{OC(S)O}-$ , (jj)  $-\text{OC(S)NR}^4-$ , (kk)  $-\text{NR}^4\text{C(S)O}-$ , (ll)  $-\text{OC(S)NOR}^4-$ ,  
62           (mm)  $-\text{C(S)O}-$ , (nn)  $-\text{OC(S)}-$ , (oo)  $-\text{C(O)}-$ , (pp)  $-\text{C(O)O}-$ ,  
63           (qq)  $-\text{C(O)NR}^4-$ , (rr)  $-\text{C(=NR}^4)-$ ,  
64           (ss)  $-\text{C(=NR}^4)\text{O}-$ , (tt)  $-\text{C(=NR}^4)\text{NR}^4-$ , (uu)  $-\text{OC(O)}-$ , (vv)  $-\text{OC(O)O}-$ ,  
65           (ww)  $-\text{OC(O)NR}^4-$ , (xx)  $-\text{NR}^4\text{C(O)}-$ , (yy)  $-\text{NR}^4\text{C(O)O}-$ , (zz)  $-\text{NR}^4\text{C(O)NR}^4-$ ,  
66           (aaa)  $-\text{NR}^4\text{C(=NR}^4)\text{NR}^4-$ ,  
67           (bbb)  $-\text{S(O)}_p-$ , (ccc)  $-\text{NR}^4\text{S(O)}_2-$ , (ddd)  $-\text{S(O)}_2\text{NR}^4-$ , (eee)  $-\text{C(N-OR}^4)-$ ,  
68           fff)  $-\text{C(N-NR}^4\text{R}^4)-$ , (ggg)  $-\text{C(S)NR}^4-$ , or (hhh)  $-\text{NR}^4\text{C(S)}-$ ;

70           G is selected from the group consisting of: (a) B' and (b) B'-Z-B'', wherein

- 71           i) each B' and B'' is independently selected from the group consisting  
72           of (aa) an aryl group, (bb) a heteroaryl group, (cc) a biaryl group,  
73           (dd) a fused bicyclic or tricyclic saturated, unsaturated or aromatic  
74           ring system optionally containing one or more heteroatoms  
75           selected from the group consisting of nitrogen, oxygen, and sulfur,  
76           (ee) a 3-10 membered saturated or unsaturated heterocycle  
77           containing one or more heteroatoms selected from the group  
78           consisting of nitrogen, oxygen, and sulfur, (ff) a 3-10 membered  
79           saturated, or unsaturated carbocycle, wherein each (aa)-(ff)  
80           optionally is substituted with one or more R<sup>11</sup> groups; and  
81           ii) Z is selected from the group consisting of  
82           (aa) a single bond, (bb) a C<sub>1-2</sub> alkyl group, (cc) a C<sub>2</sub> alkenyl group,  
83           (dd) a C<sub>2</sub> alkynyl group, (ee)  $-\text{C(O)}-$ , (ff)  $-\text{C(O)O}-$ , (gg)  $-\text{C(O)NR}^4-$ ,  
84           (hh)  $-\text{C(=NR}^4)-$ , (ii)  $-\text{C(=NR}^4)\text{O}-$ , (jj)  $-\text{C(=NR}^4)\text{NR}^4-$ ,  
85           (kk)  $-\text{S(O)}_p-$ , (ll)  $-\text{OC(O)}-$ , (mm)  $-\text{C(S)}-$ , (nn)  $-\text{C(S)NR}^4-$ , (oo)  
86            $-\text{C(NR}^4)\text{S}-$ , (pp)  $-\text{C(O)S}-$ , (qq)  $-\text{O}-$ , (rr)  $-\text{NR}^4-$ , (ss)  $-\text{NR}^4\text{C(O)}-$ ,  
87           (tt)  $-\text{OC(NR}^4)-$ , (uu)  $-\text{NC(NR}^4)-$ , (vv)  $-\text{C(S)O}-$ , (ww)  $-\text{SC(O)}-$ ,  
88           or (xx)  $-\text{OC(S)}-$ ;

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R<sup>4</sup>, at each occurrence, independently is selected from the group consisting of:

(a) H, (b) a C<sub>1-6</sub> alkyl group, (c) a C<sub>2-6</sub> alkenyl group, (d) a C<sub>2-6</sub> alkynyl group, (e) a C<sub>6-10</sub> saturated, unsaturated, or aromatic carbocycle, (f) a 3-12 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, (g) -C(O)-C<sub>1-6</sub> alkyl, (h) -C(O)-C<sub>2-6</sub> alkenyl, (i) -C(O)-C<sub>2-6</sub> alkynyl, (j) -C(O)-C<sub>6-10</sub> saturated, unsaturated, or aromatic carbocycle, (k) -C(O)-3-12 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, (l) -C(O)O-C<sub>1-6</sub> alkyl, (m) -C(O)O-C<sub>2-6</sub> alkenyl, (n) -C(O)O-C<sub>2-6</sub> alkynyl, (o) -C(O)O-C<sub>6-10</sub> saturated, unsaturated, or aromatic carbocycle, p) -C(O)O-3-12 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, and q) -C(O)NR<sup>6</sup>R<sup>6</sup>,

wherein any of (b)-(p) optionally is substituted with one or more R<sup>5</sup> groups,

alternatively, NR<sup>4</sup>R<sup>4</sup> forms a 3-7 membered saturated, unsaturated or aromatic ring including the nitrogen atom to which the R<sup>4</sup> groups are bonded, wherein said ring is optionally substituted at a position other than the nitrogen atom to which the R<sup>4</sup> groups are bonded, with one or more moieties selected from the group consisting of O, S(O)<sub>p</sub>, N, and NR<sup>8</sup>;

R<sup>5</sup> is selected from the group consisting of:

(a) R<sup>7</sup>, (b) a C<sub>1-8</sub> alkyl group, (c) a C<sub>2-8</sub> alkenyl group, (d) a C<sub>2-8</sub> alkynyl group, (e) a C<sub>3-12</sub> saturated, unsaturated, or aromatic carbocycle, and (f) a 3-12 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, or two R<sup>5</sup> groups, when present on the same carbon atom can be taken together with the carbon atom to which they are attached to form a spiro 3-6 membered carbocyclic ring or heterocyclic ring containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur;

wherein any of (b)-(f) immediately above optionally is substituted with one or more R<sup>7</sup> groups;

R<sup>6</sup>, at each occurrence, independently is selected from the group consisting of:

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121                         (a) H, (b) a C<sub>1-6</sub> alkyl group, (c) a C<sub>2-6</sub> alkenyl group, (d) a C<sub>2-6</sub> alkynyl group, (e)  
122                         a C<sub>3-10</sub> saturated, unsaturated, or aromatic carbocycle, and (f) a 3-10 membered  
123                         saturated, unsaturated, or aromatic heterocycle containing one or more  
124                         heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,  
125                         wherein any of (b)-(f) optionally is substituted with one or more moieties  
126                         selected from the group consisting of:  
127                                 (aa) a carbonyl group, (bb) a formyl group, (cc) F, (dd) Cl, (ee) Br,  
128                                 (ff) I, (gg) CN, (hh) NO<sub>2</sub>, (ii) -OR<sup>8</sup>,  
129                                 (jj) -S(O)<sub>p</sub>R<sup>8</sup>, (kk) -C(O)R<sup>8</sup>, (ll) -C(O)OR<sup>8</sup>,  
130                                 (mm) -OC(O)R<sup>8</sup>, (nn) -C(O)NR<sup>8</sup>R<sup>8</sup>,  
131                                 (oo) -OC(O)NR<sup>8</sup>R<sup>8</sup>, (pp) -C(=NR<sup>8</sup>)R<sup>8</sup>,  
132                                 (qq) -C(R<sup>8</sup>)(R<sup>8</sup>)OR<sup>8</sup>, (rr) -C(R<sup>8</sup>)<sub>2</sub>OC(O)R<sup>8</sup>,  
133                                 (ss) -C(R<sup>8</sup>)(OR<sup>8</sup>)(CH<sub>2</sub>)<sub>r</sub>NR<sup>8</sup>R<sup>8</sup>, (tt) -NR<sup>8</sup>R<sup>8</sup>,  
134                                 (uu) -NR<sup>8</sup>OR<sup>8</sup>, (vv) -NR<sup>8</sup>C(O)R<sup>8</sup>,  
135                                 (ww) -NR<sup>8</sup>C(O)OR<sup>8</sup>, (xx) -NR<sup>8</sup>C(O)NR<sup>8</sup>R<sup>8</sup>,  
136                                 (yy) -NR<sup>8</sup>S(O)<sub>r</sub>R<sup>8</sup>, (zz) -C(OR<sup>8</sup>)(OR<sup>8</sup>)R<sup>8</sup>,  
137                                 (ab) -C(R<sup>8</sup>)<sub>2</sub>NR<sup>8</sup>R<sup>8</sup>, (ac) =NR<sup>8</sup>,  
138                                 (ad) -C(S)NR<sup>8</sup>R<sup>8</sup>, (ae) -NR<sup>8</sup>C(S)R<sup>8</sup>,  
139                                 (af) -OC(S)NR<sup>8</sup>R<sup>8</sup>, (ag) -NR<sup>8</sup>C(S)OR<sup>8</sup>,  
140                                 (ah) -NR<sup>8</sup>C(S)NR<sup>8</sup>R<sup>8</sup>, (ai) -SC(O)R<sup>8</sup>,  
141                                 (aj) a C<sub>1-8</sub> alkyl group, (ak) a C<sub>2-8</sub> alkenyl group, (al) a C<sub>2-8</sub> alkynyl  
142                                 group, (am) a C<sub>1-8</sub> alkoxy group, (an) a C<sub>1-8</sub> alkylthio group, (ao) a  
143                                 C<sub>1-8</sub> acyl group, (ap) -CF<sub>3</sub>,  
144                                 (aq) -SCF<sub>3</sub>, (ar) a C<sub>3-10</sub> saturated, unsaturated, or aromatic  
145                                 carbocycle, and (as) a 3-10 membered saturated, unsaturated, or  
146                                 aromatic heterocycle containing one or more heteroatoms selected  
147                                 from the group consisting of nitrogen, oxygen, and sulfur,  
148                                 alternatively, NR<sup>6</sup>R<sup>6</sup> forms a 3-10 membered saturated, unsaturated or aromatic ring  
149                                 including the nitrogen atom to which the R<sup>6</sup> groups are attached wherein said ring is optionally  
150                                 substituted at a position other than the nitrogen atom to which the R<sup>6</sup> groups are bonded, with  
151                                 one or more moieties selected from the group consisting of O, S(O)<sub>p</sub>, N, and NR<sup>8</sup>;  
152                                 alternatively, CR<sup>6</sup>R<sup>6</sup> forms a carbonyl group;

R<sup>7</sup>, at each occurrence, is selected from the group consisting of:

- (a) H, (b) =O, (c) F, (d) Cl, (e) Br, (f) I, (g) -CF<sub>3</sub>,
- (h) -CN, (i) -N<sub>3</sub> (j) -NO<sub>2</sub>, (k) -NR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (l) -OR<sup>9</sup>, (m) -S(O)pC(R<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>,
- (n) -C(O)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (o) -OC(O)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (p) -SC(O)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (q) -
- C(O)O(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (r) -NR<sup>6</sup>C(O)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (s) -C(O)NR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (t) -
- C(=NR<sup>6</sup>)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (u) -C(=NNR<sup>6</sup>R<sup>6</sup>)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (v) -
- C(=NNR<sup>6</sup>C(O)R<sup>6</sup>)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (w) -C(=NOR<sup>9</sup>)(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (x) -
- NR<sup>6</sup>C(O)O(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (y) -OC(O)NR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (z) -
- NR<sup>6</sup>C(O)NR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (aa) -NR<sup>6</sup>S(O)p(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (bb) -
- S(O)pNR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (cc) -NR<sup>6</sup>S(O)pNR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>)<sub>t</sub>R<sup>9</sup>, (dd) -NR<sup>6</sup>R<sup>6</sup>, (ee) -
- NR<sup>6</sup>(CR<sup>6</sup>R<sup>6</sup>), (ff) -OH, (gg) -NR<sup>6</sup>R<sup>6</sup>, (hh) -OCH<sub>3</sub>, (ii) -S(O)<sub>p</sub>R<sup>6</sup>, (jj) -NC(O)R<sup>6</sup>,
- (kk) a C<sub>1-6</sub> alkyl group, (ll) a C<sub>2-6</sub> alkenyl group, (mm) a C<sub>2-6</sub> alkynyl group, (nn) -
- C<sub>3-10</sub> saturated, unsaturated, or aromatic carbocycle, and (oo) 3-10 membered
- saturated, unsaturated, or aromatic heterocycle containing one or more
- heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,
- wherein any of (kk)-(oo) optionally is substituted with one or more R<sup>9</sup>
- groups;

alternatively, two R<sup>7</sup> groups may form -O(CH<sub>2</sub>)<sub>u</sub>O-;

R<sup>8</sup> is selected from the group consisting of:

- (a) R<sup>5</sup>, (b) H, (c) a C<sub>1-6</sub> alkyl group, (d) a C<sub>2-6</sub> alkenyl group, (e) a C<sub>2-6</sub> alkynyl
- group, (f) a C<sub>3-10</sub> saturated, unsaturated, or aromatic carbocycle, (g) a 3-10
- membered saturated, unsaturated, or aromatic heterocycle containing one or more
- heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,
- (h) -C(O)-C<sub>1-6</sub> alkyl, (i) -C(O)-C<sub>1-6</sub> alkenyl, (j) -C(O)-C<sub>1-6</sub> alkynyl, (k) -C(O)-
- C<sub>3-10</sub> saturated, unsaturated, or aromatic carbocycle, and (l) -C(O)-3-10
- membered saturated, unsaturated, or aromatic heterocycle containing one or more
- heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,
- wherein any of (c)-(k) optionally is substituted with one or more moieties
- selected from the group consisting of : (aa) H, (bb) F, (cc) Cl, (dd) Br, (ee)
- I, (ff) CN, (gg) NO<sub>2</sub>, (hh) OH, (ii) NH<sub>2</sub>, (jj) NH(C<sub>1-6</sub> alkyl), (kk)
- N(C<sub>1-6</sub> alkyl)<sub>2</sub>, (ll) a C<sub>1-6</sub> alkoxy group, (mm) an aryl group, (nn) a

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184 substituted aryl group, (oo) a heteroaryl group, (pp) a substituted  
185 heteroaryl group, and qq) a C<sub>1-6</sub> alkyl group optionally substituted with  
186 one or more moieties selected from the group consisting of an aryl group,  
187 a substituted aryl group, a heteroaryl group, a substituted heteroaryl group,  
188 F, Cl, Br, I, CN, NO<sub>2</sub>, CF<sub>3</sub>, SCF<sub>3</sub>, and OH;

189            R<sup>9</sup>, at each occurrence, independently is selected from the group consisting of:

190 (a)  $R^{10}$ , (b) a  $C_{1-6}$  alkyl group, (c) a  $C_{2-6}$  alkenyl group, (d) a  $C_{2-6}$  alkynyl group, e)  
191 a  $C_{3-10}$  saturated, unsaturated, or aromatic carbocycle, and f) a 3-10 membered  
192 saturated, unsaturated, or aromatic heterocycle containing one or more  
193 heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,  
194 wherein any of (b)-(f) optionally is substituted with one or more  $R^{10}$   
195 groups;

196            R<sup>10</sup>, at each occurrence, independently is selected from the group consisting of:

(a) H, (b) =O, (c) F, (d) Cl, (e) Br, (f) I, (g) —CF<sub>3</sub>, (h) —CN, (i) —NO<sub>2</sub>, (j) —NR<sup>6</sup>R<sup>6</sup>,  
(k) —OR<sup>6</sup>, (l) —S(O)pR<sup>6</sup>, (m) —C(O)R<sup>6</sup>, (n) —C(O)OR<sup>6</sup>, (o) —OC(O)R<sup>6</sup>, (p)  
NR<sup>6</sup>C(O)R<sup>6</sup>, (q) —C(O)NR<sup>6</sup>R<sup>6</sup>, (r) —C(=NR<sup>6</sup>)R<sup>6</sup>, (s) —NR<sup>6</sup>C(O)NR<sup>6</sup>R<sup>6</sup>, (t) —  
NR<sup>6</sup>S(O)pR<sup>6</sup>, (u) —S(O)pNR<sup>6</sup>R<sup>6</sup>, (v) —NR<sup>6</sup>S(O)pNR<sup>6</sup>R<sup>6</sup>, (w) a C<sub>1-6</sub> alkyl group,  
(x) a C<sub>2-6</sub> alkenyl group, (y) a C<sub>2-6</sub> alkynyl group, (z) a C<sub>3-10</sub> saturated,  
unsaturated, or aromatic carbocycle, and (aa) a 3-10 membered saturated,  
unsaturated, or aromatic heterocycle containing one or more heteroatoms selected  
from the group consisting of nitrogen, oxygen, and sulfur,  
wherein any of (w)—(aa) optionally is substituted with one or more  
moieties selected from the group consisting of R<sup>6</sup>, F, Cl, Br, I, CN, NO<sub>2</sub>, —  
OR<sup>6</sup>, —NH<sub>2</sub>, —NH(C<sub>1-6</sub> alkyl), —N(C<sub>1-6</sub> alkyl)<sub>2</sub>, a C<sub>1-6</sub> alkoxy group, a  
C<sub>1-6</sub> alkylthio group, and a C<sub>1-6</sub> acyl group;

209 R<sup>11</sup> each occurrence, independently is selected from the group consisting of:

(a) a carbonyl group, (b) a formyl group, (c) F, (d) Cl, (e) Br, (f) I, (g) CN, (h) NO<sub>2</sub>, (i) OR<sup>8</sup>, (j) -S(O)<sub>p</sub>R<sup>8</sup>, (k) -C(O)R<sup>8</sup>, (l) -C(O)OR<sup>8</sup>,  
 (m) -OC(O)R<sup>8</sup>, (n) -C(O)NR<sup>8</sup>R<sup>8</sup>, (o) -OC(O)NR<sup>8</sup>R<sup>8</sup>,  
 (p) -C(=NR<sup>8</sup>)R<sup>8</sup>, (q) -C(R<sup>8</sup>)(R<sup>8</sup>)OR<sup>8</sup>, (r) -C(R<sup>8</sup>)<sub>2</sub>OC(O)R<sup>8</sup>,  
 (s) -C(R<sup>8</sup>)(OR<sup>8</sup>)(CH<sub>2</sub>)<sub>r</sub>NR<sup>8</sup>R<sup>8</sup>, (t) -NR<sup>8</sup>R<sup>8</sup>, (u) -NR<sup>8</sup>OR<sup>8</sup>,

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(v)  $-\text{NR}^8\text{C(O)R}^8$ , (w)  $-\text{NR}^8\text{C(O)OR}^8$ , (x)  $-\text{NR}^8\text{C(O)NR}^8\text{R}^8$ , (y)  $-\text{NR}^8\text{S(O)}_r\text{R}^8$ , (z)  $-\text{C(OR}^8)(\text{OR}^8)\text{R}^8$ , (aa)  $-\text{C(R}^8)_2\text{NR}^8\text{R}^8$ , (bb)  $=\text{NR}^8$ , (cc)  $-\text{C(S)NR}^8\text{R}^8$ , (dd)  $-\text{NR}^8\text{C(S)R}^8$ , (ee)  $-\text{OC(S)NR}^8\text{R}^8$ , (ff)  $-\text{NR}^8\text{C(S)OR}^8$ , (gg)  $-\text{NR}^8\text{C(S)NR}^8\text{R}^8$ , (hh)  $-\text{SC(O)R}^8$ , (ii) a  $\text{C}_{1-8}$  alkyl group, (jj) a  $\text{C}_{2-8}$  alkenyl group, (kk) a  $\text{C}_{2-8}$  alkynyl group, (ll) a  $\text{C}_{1-8}$  alkoxy group, (mm) a  $\text{C}_{1-8}$  alkylthio group, (nn) a  $\text{C}_{1-8}$  acyl group, (oo) a  $\text{C}_{3-10}$  saturated, unsaturated, or aromatic carbocycle, and (pp) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, wherein (ii)-(kk) optionally are substituted with one or more  $\text{R}^5$  groups;

$\text{R}^{12}$  is selected from the group consisting of:

(a) H, (b) a  $\text{C}_{1-6}$  alkyl group, (c) a  $\text{C}_{2-6}$  alkenyl group, (d) a  $\text{C}_{2-6}$  alkynyl group, (e)  $-\text{C(O)R}^5$ , (f)  $-\text{C(O)OR}^5$ , (g)  $-\text{C(O)-NR}^4\text{R}^4\text{R}^4\text{R}^4$ , (h)  $-\text{C(S)R}^5$ , (i)  $-\text{C(S)OR}^5$ , (j)  $-\text{C(O)SR}^5$ , (k)  $-\text{C(S)-NR}^4\text{R}^4\text{R}^4\text{R}^4$ , (l) a  $\text{C}_{3-10}$  saturated, unsaturated, or aromatic carbocycle, or (m) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, (n) a  $-(\text{C}_{1-6}\text{ alkyl})-\text{C}_{3-10}$  saturated, unsaturated, or aromatic carbocycle, or (o) a  $-(\text{C}_{1-6}\text{ alkyl})$ -3-10 membered saturated, unsaturated, or aromatic heterocycle containing one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur, wherein (a)-(d) and (l)-(o) optionally are substituted with one or more  $\text{R}^5$  groups;

$\text{p}$  at each occurrence is 0, 1, or 2;

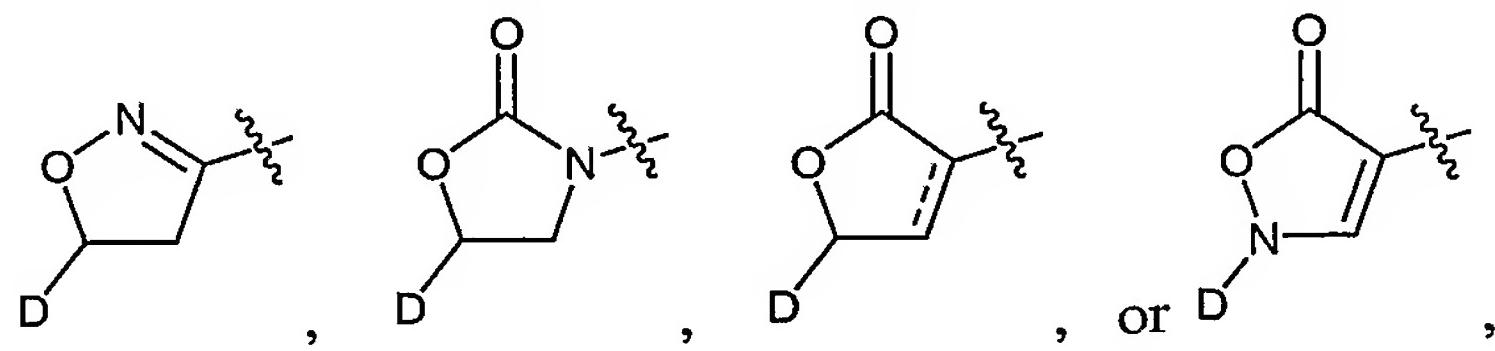
$\text{r}$  at each occurrence is 0, 1, or 2;

$\text{t}$  at each occurrence is 0, 1, or 2;

$\text{u}$  at each occurrence is 1, 2, 3, or 4;

provided that

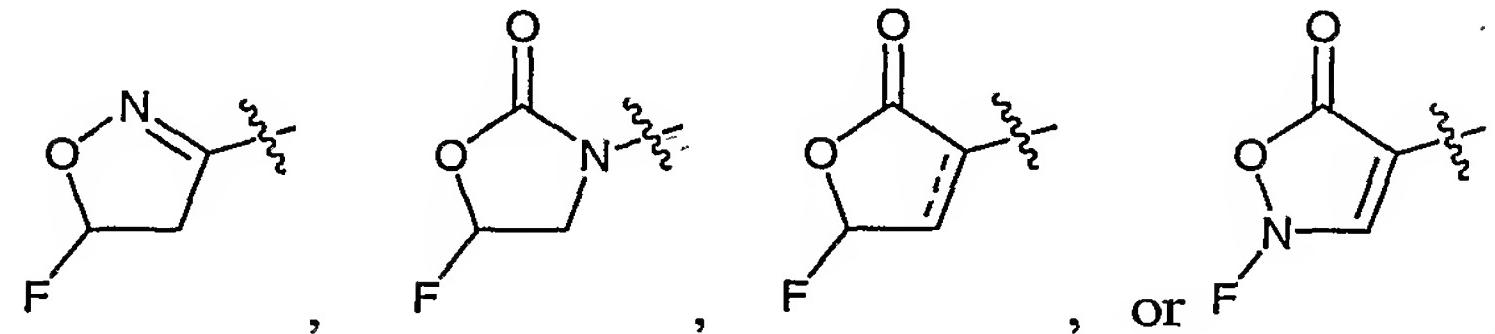
i) when T is a 14 or 15 membered macrolide D-E is not



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244

ii) when T is a 14 or 15 membered macrolide F-B' is not

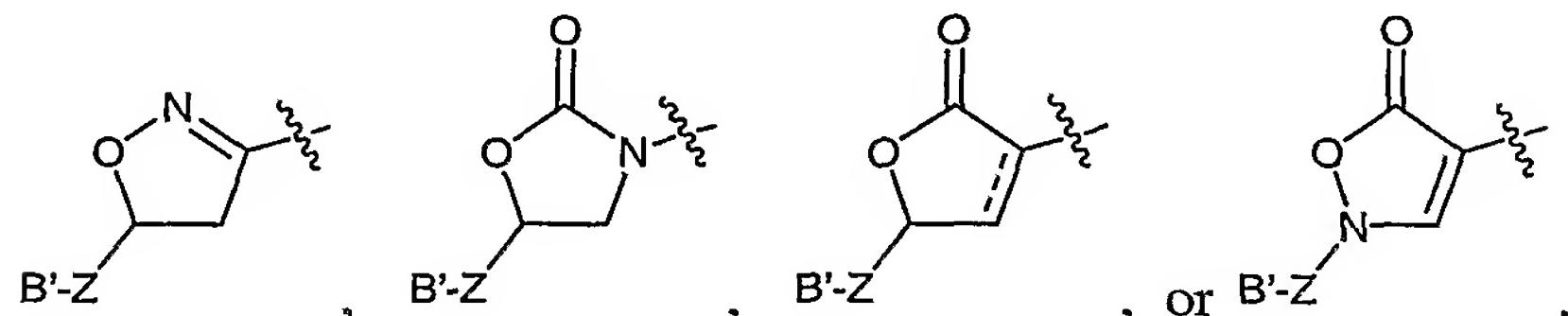


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iii) when T is a 14 or 15 membered macrolide B'-Z-B'' is not

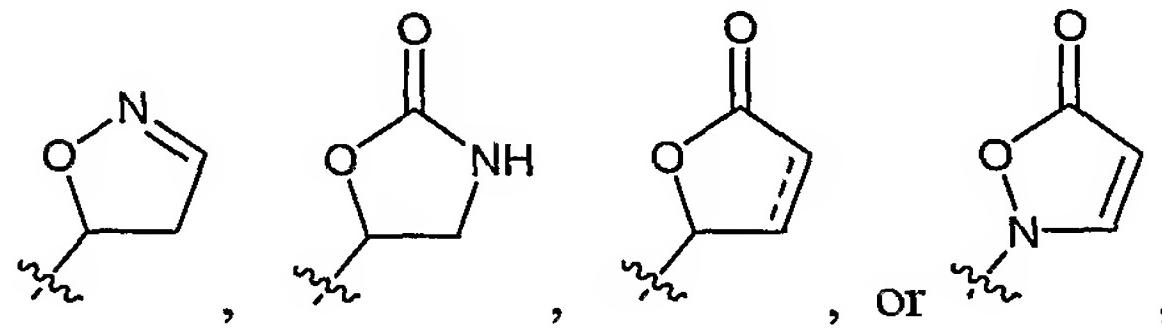


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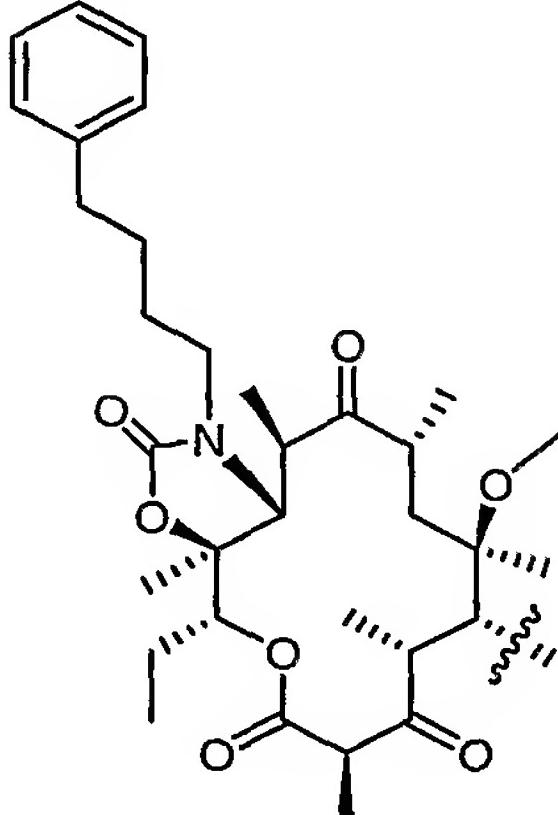
iv) when T is a 14 or 15 membered macrolide R<sup>11</sup> is not



251

252

v) when the compound has formula I and T is



253

254

D is not a single bond or a -CH<sub>2</sub>-,

255

vi) when the compound has formula I and T is a 14 or 15 membered macrolide -D-E-F- is not a -CH<sub>2</sub>-,

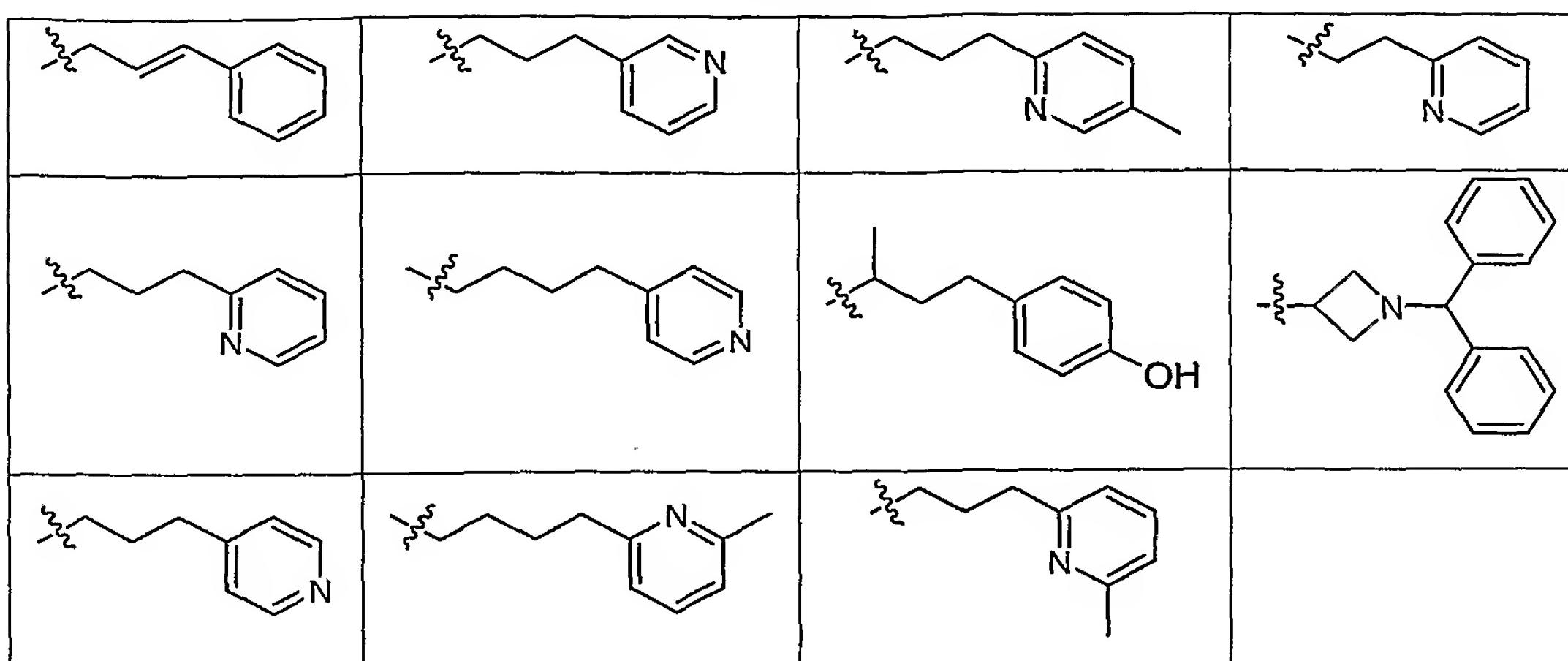
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vii) when the compound has formula I and T is a 14 or 15 membered macrolide -D-E-F-G- is not a chemical moiety selected from the chemical moieties listed in Table

Table A



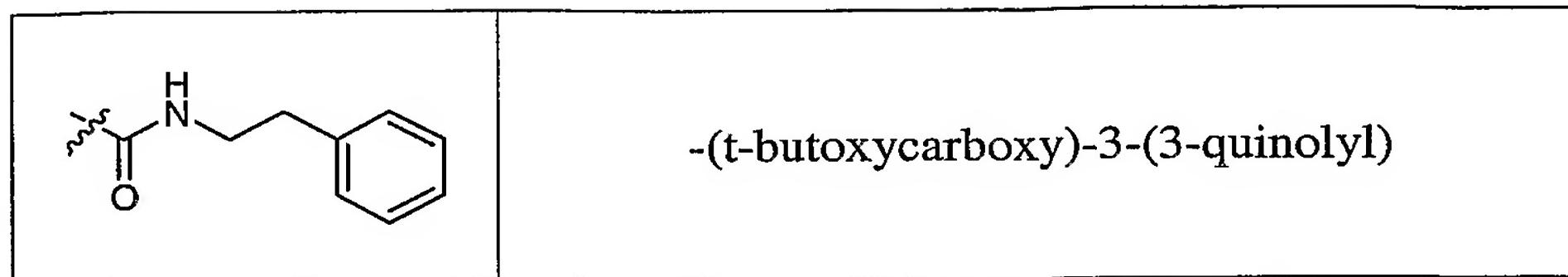
, and

260

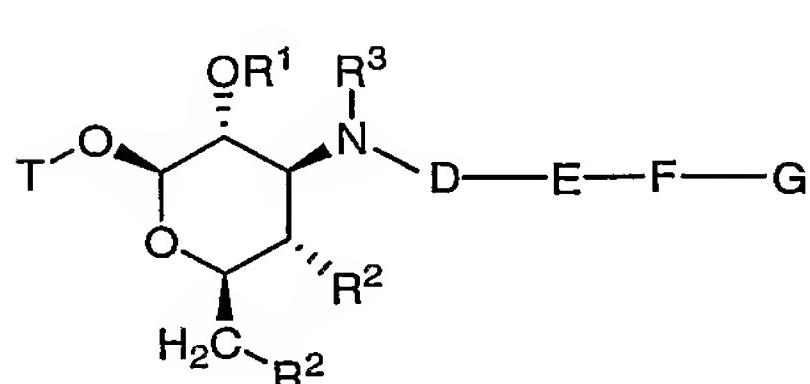
261 viii) when the compound has formula II and T is a 16 membered  
262 macrolide  
263  
264 i. -D-E- is not a glycoside attached via its anomeric carbon,  
265  
266 ii. -D-E-F-G is not a C<sub>1-4</sub> (alkyl), C<sub>2-4</sub>(alkenyl), or C<sub>2-4</sub>(alkynyl)  
267 chain bonded to a 5-10 membered monocyclic or bicyclic  
268 carbocycle or heterocycle or bonded to a 5 or 6 membered  
269 carbocycle or heterocycle further bonded to a 5 or 6 membered  
270 carbocycle or heterocycle, any of said carbocycles or  
271 heterocycles being optionally substituted with one or more  
272 groups selected from the group consisting of (aa) -OH, (bb) -F,  
273 (cc) -Cl, (dd) -I, and (ee) -NO<sub>2</sub>, and  
274  
275 iii. -D-E-F-G- is not a chemical moiety selected from the chemical  
276 moieties listed in Table B.

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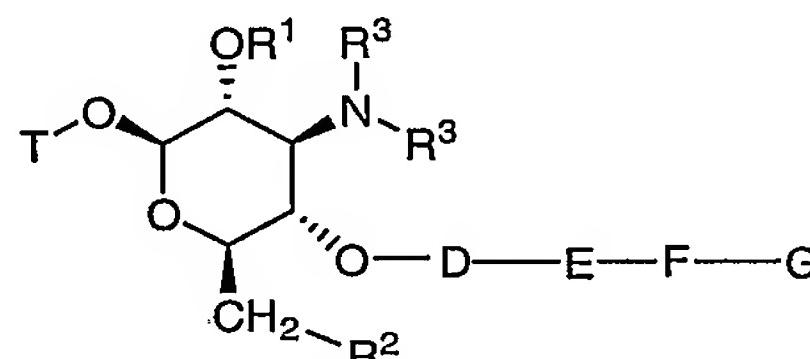
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**Table B**

1    2.    A compound according to claim 1, having the formula:



I



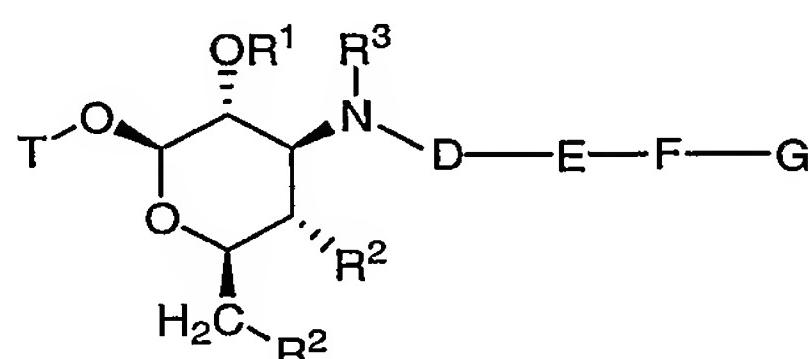
II

2

or

3    or a pharmaceutically acceptable salt, ester, *N*-oxide, or prodrug thereof wherein T, D, E, F, G,  
4    R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as described in claim 1.

1    3.    A compound according to claim 1 or 2 having the formula:

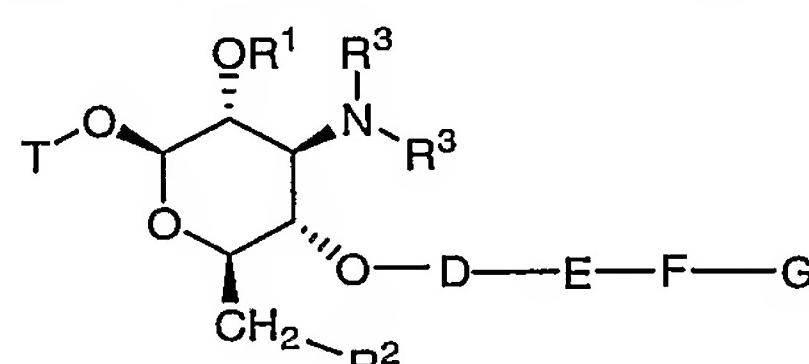


I

2

3    or a pharmaceutically acceptable salt, ester, *N*-oxide, or prodrug thereof wherein T, D, E, F, G,  
4    R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as described in claim 1.

1    4.    A compound according to claim 1 or 2 having the formula:



II

2

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3 or a pharmaceutically acceptable salt, ester, *N*-oxide, or prodrug thereof wherein T, D, E, F, G,  
4 R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are as described in claim 1.

1 5. A compound according to any one of claims 1-4, wherein T is a 14- or 15-  
2 membered macrolide connected via a macrocyclic ring carbon atom.

1 6. A compound according to any one of claims 1-5, wherein G is B'.

1 7. A compound according to claim 6 wherein B' is selected from the group  
2 consisting of: (a) an aryl group, (b) a heteroaryl group, (c) a biaryl group, and (d) a fused bicyclic  
3 or tricyclic unsaturated or aromatic ring system optionally containing one or more carbonyl  
4 groups and one or more heteroatoms selected from the group consisting of nitrogen, oxygen, and  
5 sulfur, wherein each (a)-(d) optionally is substituted with one or more R<sup>11</sup> groups.

1 8. A compound according to claim 6, wherein E is

2 (a) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing  
3 one or more heteroatoms selected from the group consisting of nitrogen, oxygen,  
4 and sulfur,

5 (b) a 3-10 membered saturated, unsaturated, or aromatic carbocycle,

6 (c) a -W-[3-10 membered saturated, unsaturated, or aromatic heterocycle  
7 containing one or more heteroatoms selected from the group consisting of  
8 nitrogen, oxygen, and sulfur],

9 (d) a -W-[ 3-10 membered saturated, unsaturated, or aromatic carbocycle],

10 (e) -C(O)-, (f) -C(O)O-, (g) -C(O)NR<sup>4</sup>-, (h) -C(=NR<sup>4</sup>)-,

11 (i) -C(=NR<sup>4</sup>)O-, (j) -C(=NR<sup>4</sup>)NR<sup>4</sup>-, (k) -OC(O)-, (l) -OC(O)O-,

12 (m) -OC(O)NR<sup>4</sup>-, (n) -NR<sup>4</sup>C(O)-, (o) -NR<sup>4</sup>C(O)O-,

13 (p) -NR<sup>4</sup>C(O)NR<sup>4</sup>-, (q) -NR<sup>4</sup>C(=NR<sup>4</sup>)NR<sup>4</sup>-, (r) -S(O)<sub>p</sub>-,

14 (s) -NR<sup>4</sup>S(O)<sub>2</sub>-, (t) -S(O)<sub>2</sub>NR<sup>4</sup>-, (u) -C(N-OR<sup>4</sup>)-, (v) -C(N-NR<sup>4</sup>R<sup>4</sup>)-,

15 (w) -C(S)NR<sup>4</sup>-, (x) - NR<sup>4</sup>C(S) -, (y) -C(S)O-, or (z) -OC(S) -, wherein

16 i) any of (a)-(d) immediately above optionally is substituted with one  
17 or more R<sup>5</sup> groups; and

18 ii) W is selected from the group consisting of:

19 (aa) -OCO-, (bb) -OC(O)O-, (cc) -OC(O)NR<sup>4</sup>-, (dd) -

20 NR<sup>4</sup>C(O)O-, (ee) -OCNOR<sup>4</sup>-, (ff) -NR<sup>4</sup>-C(O)O-, (gg) -

21 C(S)(NR<sup>4</sup>)-, (hh) -NR<sup>4</sup>-, (ii) -OC(S)O-, (jj) -OC(S)NR<sup>4</sup>-, (kk) -

22 NR<sup>4</sup>C(S)O-, (ll) -OC(S)NOR<sup>4</sup>-, (mm) -C(S)O-, (nn) -OC(S)-,

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(oo)  $-C(O)-$ , (pp)  $-C(O)O-$ , (qq)  $-C(O)NR^4-$ , (rr)  $-C(=NR^4)-$ ,  
(ss)  $-C(=NR^4)O-$ , (tt)  $-C(=NR^4)NR^4-$ , (uu)  $-OC(O)-$ , (vv)  $-$   
 $OC(O)O-$ , (ww)  $-OC(O)NR^4-$ , (xx)  $-NR^4C(O)-$ , (yy)  $-$   
 $NR^4C(O)O-$ , (zz)  $-NR^4C(O)NR^4-$ , (aaa)  $-NR^4C(=NR^4)NR^4-$ ,  
(bbb)  $-S(O)_p-$ , (ccc)  $-NR^4S(O)_2-$ , (ddd)  $-S(O)_2NR^4-$ , (eee)  $-C(N-$   
 $OR^4)-$ , (fff)  $-C(N-NR^4R^4)-$ , (ggg)  $-C(S)NR^4-$ , or (hhh)  $-$   
 $NR^4C(S)-$ .

9. A compound according to any one of claims 1-8, wherein  
D is selected from the group consisting of (a) a C<sub>1-6</sub> alkyl group, (b) a C<sub>2-6</sub> alkenyl group,  
and (c) a C<sub>2-6</sub> alkynyl group, wherein

- 4 i) 0-2 carbon atoms in any of (a)-(c) of D immediately above  
5 optionally is replaced by a moiety selected from the group  
6 consisting of O, S(O)<sub>p</sub>, and NR<sup>4</sup>,
- 7 ii) any of (a)-(c) of D immediately above optionally is substituted with  
8 one or more R<sup>5</sup> groups; and

9 F is selected from the group consisting of (a) a single bond, (b) a C<sub>1-6</sub>  
10 alkyl group, (c) a C<sub>2-6</sub> alkenyl group, and (d) a C<sub>2-6</sub> alkynyl group, wherein

- 11 i) 0-2 carbon atoms in any of (b)-(d) of F immediately above  
12 optionally is replaced by a moiety selected from the group  
13 consisting of O, S(O)<sub>p</sub>, and NR<sup>4</sup>;
- 14 ii) any of (b)-(d) of F immediately above optionally is substituted with  
15 one or more R<sup>5</sup> groups; and
- 16 iii) any of (b)-(d) of F immediately above optionally is substituted with  
17 C<sub>1-6</sub> alkyl-R<sup>5</sup>.

10. A compound according to claim 9, wherein  
E is selected from the group consisting of:

- 3 (a) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing  
4 one or more heteroatoms selected from the group consisting of nitrogen, oxygen,  
5 and sulfur,
- 6 (b) a 3-10 membered saturated, unsaturated, or aromatic carbocycle,

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- 7                   (c) a  $-W-[3\text{-}10 \text{ membered saturated, unsaturated, or aromatic heterocycle}$   
8                   containing one or more heteroatoms selected from the group consisting of  
9                   nitrogen, oxygen, and sulfur],  
10                  (d) a  $-W-[3\text{-}10 \text{ membered saturated, unsaturated, or aromatic carbocycle}]$ ,  
11                  (e)  $-C(O)-$ , (f)  $-C(O)O-$ , (g)  $-C(O)NR^4-$ , (h)  $-C(=NR^4)-$ , (i)  $-C(=NR^4)O-$ , (j)  $-$   
12                   $C(=NR^4)NR^4-$ , (k)  $-OC(O)-$ , (l)  $-OC(O)O-$ ,  
13                  (m)  $-OC(O)NR^4-$ , (n)  $-NR^4C(O)-$ , (o)  $-NR^4C(O)O-$ , (p)  $-NR^4C(O)NR^4-$ , (q)  $-$   
14                   $NR^4C(=NR^4)NR^4-$ , (r)  $-S(O)_p-$ , (s)  $-NR^4S(O)_2-$ , (t)  $-S(O)_2NR^4-$ , (u)  $-C(N-$   
15                   $OR^4)-$ , (v)  $-CH_2-$ , (w)  $-C(N\text{-}NR^4R^4)-$ , (x)  $-C(S)NR^4$ , (Y)  $-NR^4C(S)-$ , (Z)  $-$   
16                   $C(S)O-$ , or (aa)  $-OC(S)-$ , wherein  
17                  i)       any of (a)-(d) immediately above optionally is substituted with one  
18                  or more  $R^5$  groups; and  
19                  ii)      W is selected from the group consisting of:  
20                  (aa)  $-OCO-$ , (bb)  $-OC(O)O-$ , (cc)  $-OC(O)NR^4-$ ,  
21                  (dd)  $-NR^4C(O)O-$ , (ee)  $-OCNOR^4-$ ,  
22                  (ff)  $-NR^4-C(O)O-$ , (gg)  $-C(S)(NR^4)-$ , (hh)  $-NR^4$ ,  
23                  (ii)  $-OC(S)O-$ , (jj)  $-OC(S)NR^4-$ , (kk)  $-NR^4C(S)O-$ , (ll)  $-$   
24                   $OC(S)NOR^4-$ , (mm)  $-C(S)O-$ , (nn)  $-OC(S)$ , (oo)  $-C(O)-$ , (pp)  $-$   
25                   $C(O)O-$ , (qq)  $-C(O)NR^4-$ , (rr)  $-C(=NR^4)-$ ,  
26                  (ss)  $-C(=NR^4)O-$ , (tt)  $-C(=NR^4)NR^4-$ , (uu)  $-OC(O)-$ , (vv)  $-$   
27                   $OC(O)O-$ , (ww)  $-OC(O)NR^4-$ , (xx)  $-NR^4C(O)-$ , (yy)  $-$   
28                   $NR^4C(O)O-$ , (zz)  $-NR^4C(O)NR^4-$ , (aaa)  $-NR^4C(=NR^4)NR^4-$ ,  
29                  (bbb)  $-S(O)_p-$ , (ccc)  $-NR^4S(O)_2-$ , (ddd)  $-S(O)_2NR^4-$ , (eee)  $-C(N-$   
30                   $OR^4)-$ , (fff)  $-C(N\text{-}NR^4R^4)-$ , (ggg)  $-C(S)NR^4-$ , or (hhh)  
31                   $NR^4C(S)-$ .

1                  11. A compound according to claim 10, wherein

2                  E is selected from the group consisting of:

- 3                  (a) a 3-10 membered saturated, unsaturated, or aromatic heterocycle containing  
4                  one or more heteroatoms selected from the group consisting of nitrogen, oxygen,  
5                  and sulfur, and  
6                  (b) a 3-10 membered saturated, unsaturated, or aromatic carbocycle,

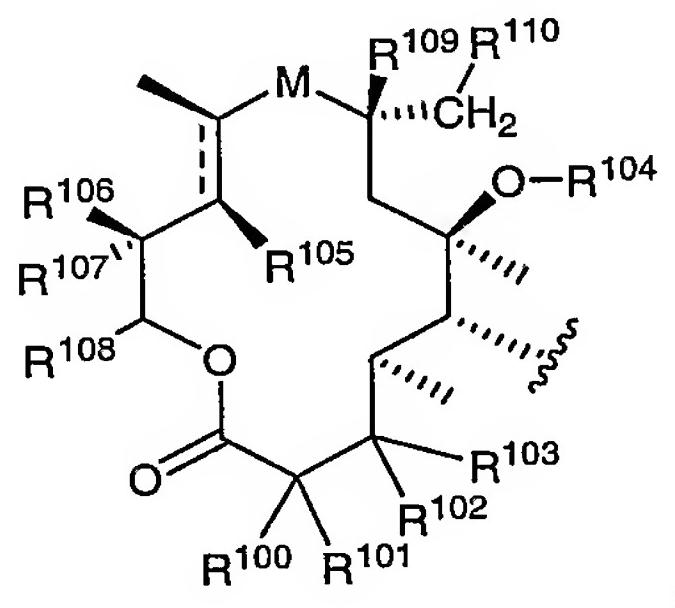
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7 wherein (a) and (b) immediately above optionally is substituted with one more R<sup>5</sup>  
8 groups.

1 12. A compound according to claim 9, wherein  
2 E is selected from the group consisting of:

3 (a) -C(O)-, (b) -C(O)O-, (c) -C(O)NR<sup>4</sup>-, (d) -C(=NR<sup>4</sup>)-,  
4 (e) -C(=NR<sup>4</sup>)O-, (f) -C(=NR<sup>4</sup>)NR<sup>4</sup>-, (g) -OC(O)-, (h) -OC(O)O-, (i) -  
5 OC(O)NR<sup>4</sup>-, (j) -NR<sup>4</sup>C(O)-, (k) -NR<sup>4</sup>C(O)O-, (l) -NR<sup>4</sup>C(O)NR<sup>4</sup>-, (m) -  
6 NR<sup>4</sup>C(=NR<sup>4</sup>)NR<sup>4</sup>-, (n) -S(O)<sub>p</sub>-, (o) -NR<sup>4</sup>S(O)<sub>2</sub>-, (p) -S(O)<sub>2</sub>NR<sup>4</sup>-, (q) -C(N-  
7 OR<sup>4</sup>)-, (r) -CH<sub>2</sub>-; (s) -C(N-NR<sup>4</sup>R<sup>4</sup>)-, (t) -C(S)NR<sup>4</sup>, (u) -NR<sup>4</sup>C(S)-, (v) -C(S)O,  
8 and (w) -OC(S)-.

1 13. A compound according to any one of according to any one of claims 1-12,  
2 wherein T is:



3  
4  
5 or an N-oxide, pharmaceutically acceptable salt, ester or prodrug thereof,  
6 wherein:

7 M is selected from the group consisting of:

8 (a) -C((O))-, (b) -CH(-OR<sup>114</sup>)-, (c) -NR<sup>114</sup>-CH<sub>2</sub>-; (d) -CH<sub>2</sub>-NR<sup>114</sup>-, (e) -  
9 CH(NR<sup>114</sup>R<sup>114</sup>)-, (f) -C(=NNR<sup>114</sup>R<sup>114</sup>)-, (g) -NR<sup>114</sup>-C(O)-, (h) -C(O)NR<sup>114</sup>-, (i) -  
10 C(=NR<sup>114</sup>)-, and (j) -CR<sup>115</sup>R<sup>115</sup>-; (k) -C(=NOR<sup>127</sup>)-;

11 R<sup>100</sup> is selected from the group consisting of H and C<sub>1-6</sub> alkyl;

12 R<sup>101</sup> is selected from the group consisting of:

13 (a) H, (b) Cl, (c) F, (d) Br, (e) I, (f) -NR<sup>114</sup>R<sup>114</sup>, (g) -NR<sup>114</sup>C(O)R<sup>114</sup>, (h) -OR<sup>114</sup>,  
14 (i) -OC(O)R<sup>114</sup>, (j) -OC(O)OR<sup>114</sup>, (k) -OC(O)NR<sup>114</sup>R<sup>114</sup>, (l) -O-C<sub>1-6</sub> alkyl,  
15 (m) -OC(O)-C<sub>1-6</sub> alkyl, (n) -OC(O)O-C<sub>1-6</sub> alkyl, (o) -OC(O)NR<sup>114</sup>-C<sub>1-6</sub> alkyl,  
16 (p) C<sub>1-6</sub> alkyl, (q) C<sub>1-6</sub> alkenyl, (r) C<sub>1-6</sub> alkynyl,

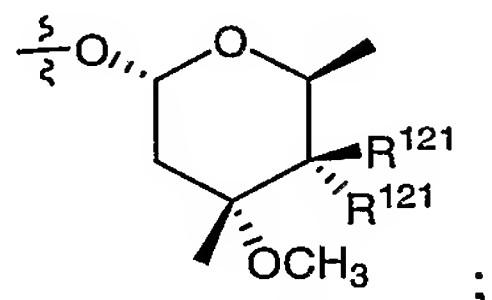
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17                   wherein any of (l) – (r) optionally is substituted with one or more  
18                   R<sup>115</sup> groups;

19                   R<sup>102</sup> is H;

20                   R<sup>103</sup> is selected from the group consisting of:

- 21                   (a) H, (b) –OR<sup>114</sup>, (c) –O–C<sub>1-6</sub> alkyl–R<sup>115</sup>, (d) –OC((O)R<sup>114</sup>,
- 22                   (e) –OC(O)–C<sub>1-6</sub> alkyl–R<sup>115</sup>, (f) –OC(O)OR<sup>114</sup>, (g) –OC(O)O–C<sub>1-6</sub> alkyl–R<sup>115</sup>,
- 23                   (h) –OC(O)NR<sup>114</sup>R<sup>114</sup>, (i) –OC(O)NR<sup>114</sup>–C<sub>1-6</sub> alkyl–R<sup>115</sup>, and
- 24                   (j)



25                   ; alternatively, R<sup>102</sup> and R<sup>103</sup> taken together form a carbonyl group;

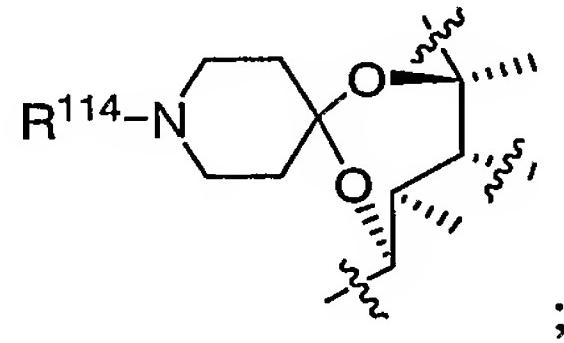
26                   alternatively, R<sup>101</sup> and R<sup>103</sup> taken together are a single bond between the respective  
27                   carbons to which these two groups are attached thereby creating a double bond between  
28                   the carbons to which R<sup>100</sup> and R<sup>102</sup> are attached;

29                   alternatively, R<sup>101</sup> and R<sup>103</sup> taken together are an epoxide moiety.

30                   R<sup>104</sup> is selected from the group consisting of:

- 31                   (a) H, (b) R<sup>114</sup>, (c) –C(O)R<sup>114</sup>(d) –C(O)OR<sup>114</sup> (e) –C(O)NR<sup>114</sup>R<sup>114</sup>, (f) –C<sub>1-6</sub> alkyl–  
32                   K–R<sup>114</sup>, (g) –C<sub>2-6</sub> alkenyl–K–R<sup>114</sup>, and (h) –C<sub>2-6</sub> alkynyl–K–R<sup>114</sup>;

33                   alternatively R<sup>103</sup> and R<sup>104</sup>, taken together with the atoms to which they are bonded, form:



34                   K is selected from the group consisting of:

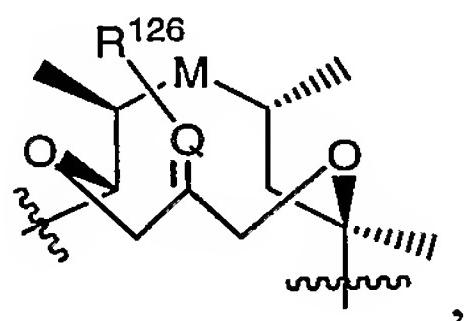
- 35                   (a) –C(O)–, (b) –C(O)O–, (c) –C(O)NR<sup>114</sup>–, (d) –C(=NR<sup>114</sup>)–, (e) –C(=NR<sup>114</sup>)O–,
- 36                   (f) –C(=NR<sup>114</sup>)NR<sup>114</sup>–, (g) –OC(O)–, (h) –OC(O)O–, (i) –OC(O)NR<sup>114</sup>–,
- 37                   (j) –NR<sup>114</sup>C(O)–, (k) –NR<sup>114</sup>C(O)O–, (l) –NR<sup>114</sup>C(O)NR<sup>114</sup>–,
- 38                   (m) –NR<sup>114</sup>C(=NR<sup>114</sup>)NR<sup>114</sup>–, and (o) –S(O)<sub>p</sub>–;

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44         $R^{105}$  is selected from the group consisting of:

- 45            (a)  $R^{114}$ , (b)  $-OR^{114}$ , (c)  $-NR^{114}R^{114}$ , (d)  $-O-C_{1-6}$  alkyl- $R^{115}$ , (e)  $-C(O)-R^{114}$ ,  
 46            (f)  $-C(O)-C_{1-6}$  alkyl- $R^{115}$ , (g)  $-OC(O)-R^{114}$ , (h)  $-OC(O)-C_{1-6}$  alkyl- $R^{115}$ ,  
 47            (i)  $-OC(O)O-R^{114}$ , (j)  $-OC(O)O-C_{1-6}$  alkyl- $R^{115}$ , (k)  $-OC(O)NR^{114}R^{114}$ ,  
 48            (l)  $-OC(O)NR^{114}-C_{1-6}$  alkyl- $R^{115}$ , (m)  $-C(O)-C_{2-6}$  alkenyl- $R^{115}$ , and  
 49            (n)  $-C(O)-C_{2-6}$  alkynyl- $R^{115}$ ;

50        alternatively,  $R^{104}$  and  $R^{105}$ , taken together with the atoms to which they are bonded,  
 51        form:

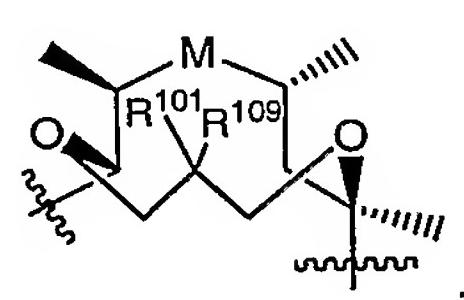


52

53        wherein

54            Q is CH or N, and  $R^{126}$  is  $-OR^{114}$ ,  $-NR^{114}R^{114}$  or  $R^{114}$ ;

55        alternatively,  $R^{104}$  and  $R^{105}$ , taken together with the atoms to which they are bonded,  
 56        form:

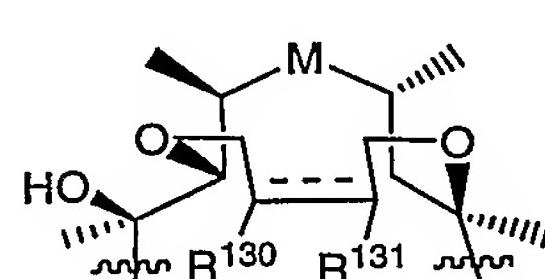


57

58        wherein

- 59            i)  $R^{101}$  is as defined above;  
 60            ii) alternately,  $R^{101}$  and  $R^{109}$  may be taken together to form a carbonyl  
 61            group;  
 62            iii) alternately,  $R^{101}$  and  $R^{109}$  may be taken together to form the group  
 63             $-O(CR^{116}R^{116})_uO-$ ;

64        alternatively,  $R^{104}$  and  $R^{105}$ , taken together with the atoms to which they are bonded,  
 65        form:



67

- 68            i)  $R^{130}$  is  $-OH$ ,  $=C(O)$ , or  $R^{114}$ ,

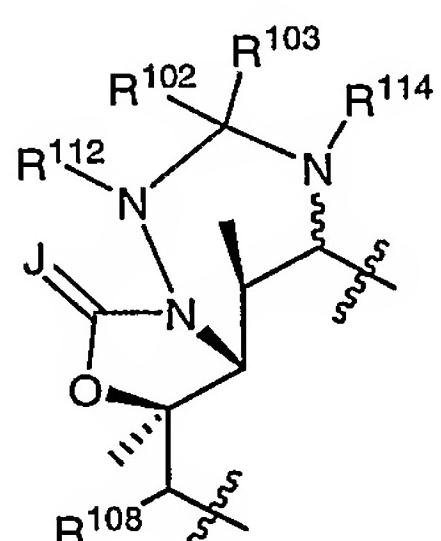
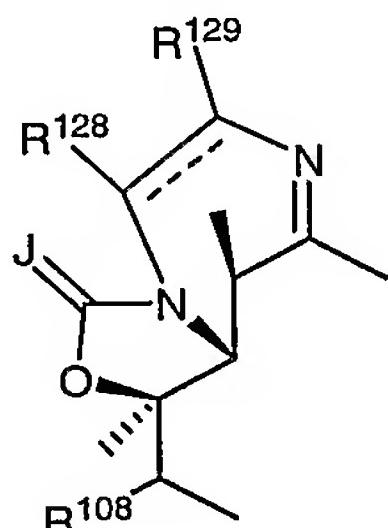
- 314 -

- 69                   ii)     R<sup>131</sup> is -OH, =C(O), or R<sup>114</sup>,  
 70                   iii)    alternately, R<sup>130</sup> and R<sup>131</sup> together with the carbons to which they  
 71                   are attached form a 3-7 membered saturated, unsaturated or  
 72                   aromatic carbocyclic or heterocyclic ring which can optionally be  
 73                   substituted with one or more R<sup>114</sup> groups;

74  
 75                  R<sup>106</sup> is selected from the group consisting of:  
 76                  (a) -OR<sup>114</sup>, (b) -C<sub>1-6</sub> alkoxy-R<sup>115</sup>, (c) -C(O)R<sup>114</sup>, (d) -OC(O)R<sup>114</sup>, (e) -  
 77                  OC(O)OR<sup>114</sup>, (f) -OC(O)NR<sup>114</sup>R<sup>114</sup>, and (g) -NR<sup>114</sup>R<sup>114</sup>,  
 78                  alternatively, R<sup>105</sup> and R<sup>106</sup> taken together with the atoms to which they are attached form  
 79                  a 5-membered ring by attachment to each other through a chemical moiety selected from the  
 80                  group consisting of:

81                  (a) -OC(R<sup>115</sup>)<sub>2</sub>O-, (b) -OC(O)O-, (c) -OC(O)NR<sup>114</sup>-, (d) -NR<sup>114</sup>C(O)O-,  
 82                  (e) -OC(O)NOR<sup>114</sup>-, (f) -NOR<sup>114</sup>-C(O)O-, (g) -OC(O)NNR<sup>114</sup>R<sup>114</sup>-,  
 83                  (h) -NNR<sup>114</sup>R<sup>114</sup>-C(O)O-, (i) -OC(O)C(R<sup>115</sup>)<sub>2</sub>-, (j) -C(R<sup>115</sup>)<sub>2</sub>C(O)O-, (k) -  
 84                  OC(S)O-, (l) -OC((S)NR<sup>114</sup>-, (m) -NR<sup>114</sup>C(S)O-, (n) -OC(S)NOR<sup>114</sup>-, (o) -  
 85                  NOR<sup>114</sup>-C(S)O-, (p) -OC(S)NNR<sup>114</sup>R<sup>114</sup>-, (q) -NNR<sup>114</sup>R<sup>114</sup>-C(S)O-, (r) -  
 86                  OC(S)C(R<sup>115</sup>)<sub>2</sub>-; and (s) -C(R<sup>115</sup>)<sub>2</sub>C(S)O-;

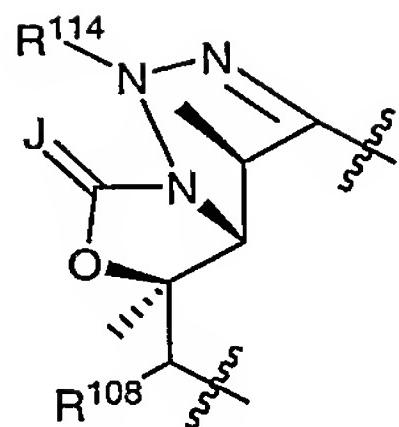
87                  alternatively, M, R<sup>105</sup>, and R<sup>106</sup> taken together with the atoms to which they are attached form:



90

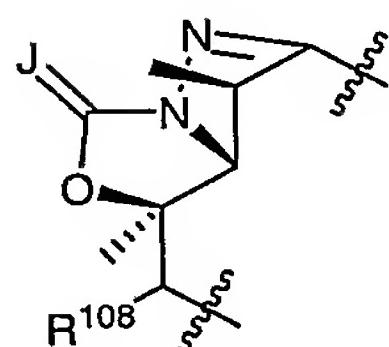
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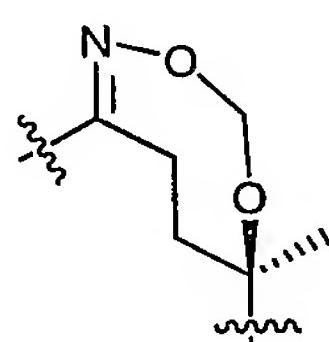


94

95 wherein J is selected from the group consisting of O, S and NR<sup>114</sup>;

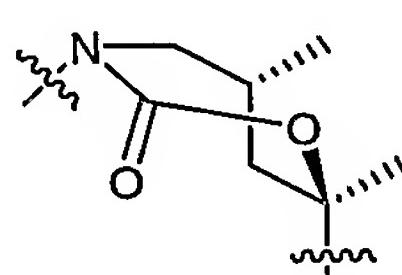
96 alternatively, M and R<sup>104</sup> taken together with the atoms to which they are attached form:

97



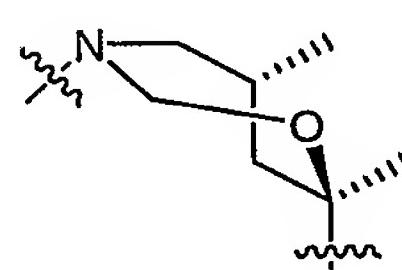
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99



100

101



102

103

104 R<sup>107</sup> is selected from the group consisting of

105 (a) H, (b) -C<sub>1-4</sub> alkyl, (c) -C<sub>2-4</sub> alkenyl, which can be further substituted with C<sub>1-12</sub>  
106 alkyl or one or more halogens, (d) -C<sub>2-4</sub> alkynyl, which can be further substituted  
107 with C<sub>1-12</sub> alkyl or one or more halogens, (e) aryl or heteroaryl, which can be  
108 further substituted with C<sub>1-12</sub> alkyl or one or more halogens, (f) -C(O)H, (g) -

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109                   COOH, (h) –CN, (i) –COOR<sup>114</sup>, (j) -C(O)NR<sup>114</sup>R<sup>114</sup>, (k) –C(O)R<sup>114</sup>, and (l) –  
110                   C(O)SR<sup>114</sup>, wherein (b) is further substituted with one or more substituents  
111                   selected from the group consisting of (aa) –OR<sup>114</sup>, (bb) halogen, (cc) –SR<sup>114</sup>, (dd)  
112                   C<sub>1-12</sub> alkyl, which can be further substituted with halogen, hydroxyl, C<sub>1-6</sub> alkoxy,  
113                   or amino, (ee) –OR<sup>114</sup>, (ff) –SR<sup>114</sup>, (gg) –NR<sup>114</sup>R<sup>114</sup>, (hh) –CN, (ii) –NO<sub>2</sub>, (jj) –  
114                   NC(O)R<sup>114</sup>, (kk) –COOR<sup>114</sup>, (ll) –N<sub>3</sub>, (mm) =N-O-R<sup>114</sup>, (nn) =NR<sup>114</sup>, (oo) =N-  
115                   NR<sup>114</sup>R<sup>114</sup>, (pp) =N-NH-C(O)R<sup>114</sup>, and (qq) =N-NH-C(O)NR<sup>114</sup>R<sup>114</sup>;  
116                   alternatively R<sup>106</sup> and R<sup>107</sup> are taken together with the atom to which they are attached to  
117                   form an epoxide, a carbonyl, an olefin, or a substituted olefin, or a C<sub>3</sub>-C<sub>7</sub> carbocyclic, carbonate,  
118                   or carbamate, wherein the nitrogen of said carbamate can be further substituted with a  
119                   C<sub>1</sub>-C<sub>6</sub> alkyl;

120                   R<sup>108</sup> is selected from the group consisting of:

121                   (a) C<sub>1-6</sub> alkyl, (b) C<sub>2-6</sub> alkenyl, and (c) C<sub>2-6</sub> alkynyl,  
122                   wherein any of (a)-(c) optionally is substituted with one or more R<sup>114</sup>  
123                   groups;

124                   R<sup>111</sup> is selected from the group consisting of H and –C(O)R<sup>114</sup>;

125                   R<sup>112</sup> is selected from the group consisting of H, OH, and OR<sup>114</sup>;

126                   R<sup>113</sup> is selected from the group consisting of:

127                   (a) H, (b) R<sup>114</sup>, (c) –C<sub>1-6</sub> alkyl–K–R<sup>114</sup>, (d) –C<sub>2-6</sub> alkenyl–K–R<sup>114</sup>, and  
128                   (e) –C<sub>2-6</sub> alkynyl–K–R<sup>114</sup>,

129                   wherein any of (c)-(e) optionally is substituted with one or more R<sup>115</sup>  
130                   groups;

131                   R<sup>114</sup>, at each occurrence, independently is selected from the group consisting of:

132                   (a) H, (b) C<sub>1-6</sub> alkyl, (c) C<sub>2-6</sub> alkenyl, (d) C<sub>2-6</sub> alkynyl, (e) C<sub>6-10</sub> saturated,  
133                   unsaturated, or aromatic carbocycle, (f) 3-12 membered saturated, unsaturated, or  
134                   aromatic heterocycle containing one or more heteroatoms selected from the group  
135                   consisting of nitrogen, oxygen, and sulfur, (g) –C(O)–C<sub>1-6</sub> alkyl, (h) –C(O)–  
136                   C<sub>2-6</sub> alkenyl, (i) –C(O)–C<sub>2-6</sub> alkynyl, (j) –C(O)–C<sub>6-10</sub> saturated, unsaturated, or  
137                   aromatic carbocycle, (k) –C(O)–3-12 membered saturated, unsaturated, or  
138                   aromatic heterocycle containing one or more heteroatoms selected from the group  
139                   consisting of nitrogen, oxygen, and sulfur, (l) –C(O)O–C<sub>1-6</sub> alkyl, (m) –C(O)O–  
140                   C<sub>2-6</sub> alkenyl, (n) –C(O)O–C<sub>2-6</sub> alkynyl, (o) –C(O)O–C<sub>6-10</sub> saturated, unsaturated,

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141 or aromatic carbocycle, (p)  $-\text{C}(\text{O})\text{O}-$ 3-12 membered saturated, unsaturated, or  
142 aromatic heterocycle containing one or more heteroatoms selected from the group  
143 consisting of nitrogen, oxygen, and sulfur, and (q)  $-\text{C}(\text{O})\text{NR}^{116}\text{R}^{116}$ ,  
144 wherein any of (b)-(p) optionally is substituted with one or more  $\text{R}^{115}$   
145 groups, wherein one or more non-terminal carbon moieties of any of (b)-  
146 (d) optionally is replaced with oxygen,  $\text{S}(\text{O})_p$ , or  $-\text{NR}^{116}$ ,  
147 alternatively,  $\text{NR}^{114}\text{R}^{114}$  forms a 3-7 membered saturated, unsaturated or aromatic ring  
148 including the nitrogen atom to which the  $\text{R}^{114}$  groups are bonded and optionally one or more  
149 moieties selected from the group consisting of O,  $\text{S}(\text{O})_p$ , N, and  $\text{NR}^{118}$ ;  
150  $\text{R}^{115}$  is selected from the group consisting of:  
151 (a)  $\text{R}^{117}$ , (b)  $\text{C}_{1-8}$  alkyl, (c)  $\text{C}_{2-8}$  alkenyl, (d)  $\text{C}_{2-8}$  alkynyl, (e)  $\text{C}_{3-12}$  saturated,  
152 unsaturated, or aromatic carbocycle, (f) 3-12 membered saturated, unsaturated, or  
153 aromatic heterocycle containing one or more heteroatoms selected from the group  
154 consisting of nitrogen, oxygen, and sulfur,  
155 wherein any of (b)-(f) optionally is substituted with one or more  $\text{R}^{117}$   
156 groups;  
157  $\text{R}^{116}$ , at each occurrence, independently is selected from the group consisting of:  
158 (a) H, (b)  $\text{C}_{1-6}$  alkyl, (c)  $\text{C}_{2-6}$  alkenyl, (d)  $\text{C}_{2-6}$  alkynyl, (e)  $\text{C}_{3-10}$  saturated,  
159 unsaturated, or aromatic carbocycle, and (f) 3-10 membered saturated,  
160 unsaturated, or aromatic heterocycle containing one or more heteroatoms selected  
161 from the group consisting of nitrogen, oxygen, and sulfur,  
162 wherein one or more non-terminal carbon moieties of any of (b)-(d)  
163 optionally is replaced with oxygen,  $\text{S}(\text{O})_p$ , or  $-\text{NR}^{114}$ , wherein any of (b)-  
164 (f) optionally is substituted with one or more moieties selected from the  
165 group consisting of:  
166 (aa) carbonyl, (bb) formyl, (cc) F, (dd) Cl, (ee) Br, (ff) I, (gg) CN,  
167 (hh)  $\text{N}_3$ , (ii)  $\text{NO}_2$ , (jj)  $\text{OR}^{118}$ , (kk)  $-\text{S}(\text{O})_p\text{R}^{118}$ , (ll)  $-\text{C}(\text{O})\text{R}^{118}$ , (mm)  
168  $-\text{C}(\text{O})\text{OR}^{118}$ , (nn)  $-\text{OC}(\text{O})\text{R}^{118}$ , (oo)  $-\text{C}(\text{O})\text{NR}^{118}\text{R}^{118}$ , (pp)  $-\text{OC}(\text{O})\text{NR}^{118}\text{R}^{118}$ ,  
169 (qq)  $-\text{C}(=\text{NR}^{118})\text{R}^{118}$ , (rr)  $-\text{C}(\text{R}^{118})(\text{R}^{118})\text{OR}^{118}$ ,  
170 (ss)  $-\text{C}(\text{R}^{118})_2\text{OC}(\text{O})\text{R}^{118}$ , (tt)  $-\text{C}(\text{R}^{118})(\text{OR}^{118})(\text{CH}_2)_i\text{NR}^{118}\text{R}^{118}$ ,  
171 (uu)  $-\text{NR}^{118}\text{R}^{118}$ ; (vv)  $-\text{NR}^{118}\text{OR}^{118}$ , (ww)  $-\text{NR}^{118}\text{C}(\text{O})\text{R}^{118}$ , (xx)  $-\text{NR}^{118}\text{C}(\text{O})\text{OR}^{118}$ , (yy)  $-\text{NR}^{118}\text{C}(\text{O})\text{NR}^{118}\text{R}^{118}$ , (zz)  $-\text{NR}^{118}\text{C}(\text{O})\text{NR}^{118}\text{R}^{118}$ ,

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173 NR<sup>118</sup>S(O)<sub>r</sub>R<sup>118</sup>, (ab) –C(OR<sup>118</sup>)(OR<sup>118</sup>)R<sup>118</sup>, (ac) –  
 174 C(R<sup>118</sup>)<sub>2</sub>NR<sup>118</sup>R<sup>118</sup>, (ad) =NR<sup>118</sup>, (ae) –C(S)NR<sup>118</sup>R<sup>118</sup>, (af) –  
 175 NR<sup>118</sup>C(S)R<sup>118</sup>, (ag) –OC(S)NR<sup>118</sup>R<sup>118</sup>, (ah) –NR<sup>118</sup>C(S)OR<sup>118</sup>, (ai)  
 176 –NR<sup>118</sup>C(S)NR<sup>118</sup>R<sup>118</sup>, (aj) –SC(O)R<sup>118</sup>, (ak) C<sub>1-8</sub> alkyl, (al)  
 177 C<sub>2-8</sub> alkenyl, (am) C<sub>2-8</sub> alkynyl, (an) C<sub>1-8</sub> alkoxy, (ao) C<sub>1-8</sub>  
 178 alkylthio, (ap) C<sub>1-8</sub> acyl, (aq) saturated, unsaturated, or aromatic  
 179 C<sub>3-10</sub> carbocycle, and (ar) saturated, unsaturated, or aromatic 3-10  
 180 membered heterocycle containing one or more heteroatoms  
 181 selected from the group consisting of nitrogen, oxygen, and sulfur,  
 182 alternatively, NR<sup>116</sup>R<sup>116</sup> forms a 3-10 membered saturated, unsaturated or aromatic ring  
 183 including the nitrogen atom to which the R<sup>116</sup> groups are attached and optionally one or more  
 184 moieties selected from the group consisting of O, S(O)<sub>p</sub>, N, and NR<sup>118</sup>;  
 185 alternatively, CR<sup>116</sup>R<sup>116</sup> forms a carbonyl group;  
 186 R<sup>117</sup>, at each occurrence, is selected from the group consisting of:  
 187 (a) H, (b) =O, (c) F, (d) Cl, (e) Br, (f) I, (g) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>CF<sub>3</sub>, (h) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>CN,  
 188 (i) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NO<sub>2</sub>, (j) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (k) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>OR<sup>119</sup>,  
 189 (l) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>S(O)<sub>p</sub>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (m) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(O)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 190 (n) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>OC(O)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (o) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>SC(O)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 191 (p) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(O)O(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (q) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>C(O)(  
 192 CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (r) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(O)NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (s)  
 193 (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(=NR<sup>116</sup>)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 194 (t) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(=NNR<sup>116</sup>R<sup>116</sup>)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 195 (u) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(=NNR<sup>116</sup>C(O)R<sup>116</sup>)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 196 (v) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>C(=NOR<sup>119</sup>)(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 197 (w) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>C(O)O(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 198 (x) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>OC(O)NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 199 (y) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>C(O)NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 200 (z) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>S(O)<sub>p</sub>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 201 (aa) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>S(O)<sub>p</sub>NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>,  
 202 (bb) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>S(O)<sub>p</sub>NR<sup>116</sup>(CR<sup>116</sup>R<sup>116</sup>)<sub>t</sub>R<sup>119</sup>, (cc) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>NR<sup>116</sup>R<sup>116</sup>,  
 203 (dd) C<sub>1-6</sub> alkyl, (ee) C<sub>2-6</sub> alkenyl, (ff) C<sub>2-6</sub> alkynyl, (gg) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>—C<sub>3-10</sub>  
 204 saturated, unsaturated, or aromatic carbocycle, and (hh) (CR<sup>116</sup>R<sup>116</sup>)<sub>r</sub>—3-10

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205 membered saturated, unsaturated, or aromatic heterocycle containing one or more  
206 heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,  
207 wherein any of (dd)–(hh) optionally is substituted with one or more R<sup>119</sup>  
208 groups;  
209 alternatively, two R<sup>117</sup> groups may form –O(CH<sub>2</sub>)<sub>u</sub>O–;  
210 R<sup>118</sup> is selected from the group consisting of:  
211 (a) H, (b) C<sub>1-6</sub> alkyl, (c) C<sub>2-6</sub> alkenyl, (d) C<sub>2-6</sub> alkynyl, (e) C<sub>3-10</sub> saturated,  
212 unsaturated, or aromatic carbocycle, (f) 3-10 membered saturated, unsaturated, or  
213 aromatic heterocycle containing one or more heteroatoms selected from the group  
214 consisting of nitrogen, oxygen, and sulfur, (g) –C(O)–C<sub>1-6</sub> alkyl, (h) –C(O)–  
215 C<sub>1-6</sub> alkenyl, (g) –C(O)–C<sub>1-6</sub> alkynyl, (i) –C(O)–C<sub>3-10</sub> saturated, unsaturated, or  
216 aromatic carbocycle, and (j) –C(O)–3-10 membered saturated, unsaturated, or  
217 aromatic heterocycle containing one or more heteroatoms selected from the group  
218 consisting of nitrogen, oxygen, and sulfur,  
219 wherein any of (b)–(j) optionally is substituted with one or more moieties  
220 selected from the group consisting of : (aa) H, (bb) F, (cc) Cl, (dd) Br, (ee)  
221 I, (ff) CN, (gg) NO<sub>2</sub>, (hh) OH, (ii) NH<sub>2</sub>, (jj) NH(C<sub>1-6</sub> alkyl), (kk)  
222 N(C<sub>1-6</sub> alkyl)<sub>2</sub>, (ll) C<sub>1-6</sub> alkoxy, (mm) aryl, (nn) substituted aryl, (oo)  
223 heteroaryl, (pp) substituted heteroaryl, and (qq) C<sub>1-6</sub> alkyl, optionally  
224 substituted with one or more moieties selected from the group consisting  
225 of aryl, substituted aryl, heteroaryl, substituted heteroaryl, F, Cl, Br, I, CN,  
226 NO<sub>2</sub>, and OH;  
227 R<sup>119</sup>, at each occurrence, independently is selected from the group consisting of:  
228 (a) R<sup>120</sup>, (b) C<sub>1-6</sub> alkyl, (c) C<sub>2-6</sub> alkenyl, (d) C<sub>2-6</sub> alkynyl, (e) C<sub>3-10</sub> saturated,  
229 unsaturated, or aromatic carbocycle, and (f) 3-10 membered saturated,  
230 unsaturated, or aromatic heterocycle containing one or more heteroatoms selected  
231 from the group consisting of nitrogen, oxygen, and sulfur,  
232 wherein any of (b)–(f) optionally is substituted with one or more R<sup>119</sup>  
233 groups;  
234 R<sup>120</sup>, at each occurrence, independently is selected from the group consisting of:

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235                         (a) H, (b) =O, (c) F, (d) Cl, (e) Br, (f) I, (g)  $(CR^{116}R^{116})_rCF_3$ , (h)  $(CR^{116}R^{116})_rCN$ ,  
 236                         (i)  $(CR^{116}R^{116})_rNO_2$ , (j)  $(CR^{116}R^{116})_rNR^{116}R^{116}$ , (k)  $(CR^{116}R^{116})_rOR^{114}$ ,  
 237                         (l)  $(CR^{116}R^{116})_rS(O)pR^{116}$ , (m)  $(CR^{116}R^{116})_rC(O)R^{116}$ , (n)  $(CR^{116}R^{116})_rC(O)OR^{116}$ ,  
 238                         (o)  $(CR^{116}R^{116})_rOC(O)R^{116}$ , (p)  $(CR^{116}R^{116})_rNR^{116}C(O)R^{116}$ ,  
 239                         (q)  $(CR^{116}R^{116})_rC(O)NR^{116}R^{116}$ , (r)  $(CR^{116}R^{116})_rC(=NR^{116})R^{116}$ ,  
 240                         (s)  $(CR^{116}R^{116})_rNR^{116}C(O)NR^{116}R^{116}$ , (t)  $(CR^{116}R^{116})_rNR^{116}S(O)pR^{116}$ ,  
 241                         (u)  $(CR^{116}R^{116})_rS(O)pNR^{116}R^{116}$ , (v)  $(CR^{116}R^{116})_rNR^{116}S(O)pNR^{116}R^{116}$ ,  
 242                         (w) C<sub>1-6</sub> alkyl, (x) C<sub>2-6</sub> alkenyl, (y) C<sub>2-6</sub> alkynyl, (z)  $(CR^{116}R^{116})_r-C_{3-10}$  saturated,  
 243                         unsaturated, or aromatic carbocycle, and (aa)  $(CR^{116}R^{116})_r-3-10$  membered  
 244                         saturated, unsaturated, or aromatic heterocycle containing one or more  
 245                         heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,  
 246                         wherein any of (w)–(aa) optionally is substituted with one or more  
 247                         moieties selected from the group consisting of R<sup>116</sup>, F, Cl, Br, I, CN, NO<sub>2</sub>,  
 248                         –OR<sup>116</sup>, –NH<sub>2</sub>, –NH(C<sub>1-6</sub> alkyl), –N(C<sub>1-6</sub> alkyl)<sub>2</sub>, C<sub>1-6</sub> alkoxy,  
 249                         C<sub>1-6</sub> alkylthio, and C<sub>1-6</sub> acyl;  
 250                         R<sup>121</sup>, at each occurrence, independently is selected from the group consisting of:  
 251                         (a) H, (b) –OR<sup>118</sup>, (c) –O–C<sub>1-6</sub> alkyl–OC(O)R<sup>118</sup>, (d) –O–C<sub>1-6</sub> alkyl–OC(O)OR<sup>118</sup>,  
 252                         (e) –O–C<sub>1-6</sub> alkyl–OC(O)NR<sup>118</sup>R<sup>118</sup>, (f) –O–C<sub>1-6</sub> alkyl–C(O)NR<sup>118</sup>R<sup>118</sup>, (g) –O–  
 253                         C<sub>1-6</sub> alkyl–NR<sup>118</sup>C(O)R<sup>118</sup>, (h) –O–C<sub>1-6</sub> alkyl–NR<sup>118</sup>C(O)OR<sup>118</sup>, (i) –O–C<sub>1-6</sub> alkyl–  
 254                         NR<sup>118</sup>C(O)NR<sup>118</sup>R<sup>118</sup>, (j) –O–C<sub>1-6</sub> alkyl–NR<sup>118</sup>C(=N(H))NR<sup>118</sup>R<sup>118</sup>, (k) –O–  
 255                         C<sub>1-6</sub> alkyl–S(O)pR<sup>118</sup>, (l) –O–C<sub>2-6</sub> alkenyl–OC(O)R<sup>118</sup>, (m) –O–C<sub>2-6</sub> alkenyl–  
 256                         OC(O)OR<sup>118</sup>, (n) –O–C<sub>2-6</sub> alkenyl–OC(O)NR<sup>118</sup>R<sup>118</sup>, (o) –O–C<sub>2-6</sub> alkenyl–  
 257                         C(O)NR<sup>118</sup>R<sup>118</sup>, (p) –O–C<sub>2-6</sub> alkenyl–NR<sup>118</sup>C(O)R<sup>118</sup>, (q) –O–C<sub>2-6</sub> alkenyl–  
 258                         NR<sup>118</sup>C(O)OR<sup>118</sup>, (r) –O–C<sub>2-6</sub> alkenyl–NR<sup>118</sup>C(O)NR<sup>118</sup>R<sup>118</sup>, (s) –O–C<sub>2-6</sub> alkenyl–  
 259                         NR<sup>118</sup>C(=N(H))NR<sup>118</sup>R<sup>118</sup>, (t) –O–C<sub>2-6</sub> alkenyl–S(O)pR<sup>118</sup>,  
 260                         (u) –O–C<sub>2-6</sub> alkynyl–OC(O)R<sup>118</sup>, (v) –O–C<sub>2-6</sub> alkynyl–OC(O)OR<sup>118</sup>,  
 261                         (w) –O–C<sub>2-6</sub> alkynyl–OC(O)NR<sup>118</sup>R<sup>118</sup>, (x) –O–C<sub>2-6</sub> alkynyl–C(O)NR<sup>118</sup>R<sup>118</sup>, (y) –  
 262                         O–C<sub>2-6</sub> alkynyl–NR<sup>118</sup>C(O)R<sup>118</sup>, (z) –O–C<sub>2-6</sub> alkynyl–NR<sup>118</sup>C(O)OR<sup>118</sup>, (aa) –O–  
 263                         C<sub>2-6</sub> alkynyl–NR<sup>118</sup>C(O)NR<sup>118</sup>R<sup>118</sup>,  
 264                         (bb) –O–C<sub>2-6</sub> alkynyl–NR<sup>118</sup>C(=N(H))NR<sup>118</sup>R<sup>118</sup>, (cc) –O–C<sub>2-6</sub> alkynyl–S(O)pR<sup>118</sup>;  
 265                         and (dd) –NR<sup>118</sup>R<sup>118</sup>;

266 alternatively, two R<sup>121</sup> groups taken together form =O, =NOR<sup>118</sup>, or =NNR<sup>118</sup>R<sup>118</sup>;  
267 R<sup>122</sup> is R<sup>115</sup>;

268 R<sup>123</sup> is selected from the group consisting of:

269 (a) R<sup>116</sup>, (b) F, (c) Cl, (d) Br, (e) I, (f) CN, (g) NO<sub>2</sub>, and (h) -OR<sup>114</sup>;

270 alternatively, R<sup>122</sup> and R<sup>123</sup> taken together are -O(CH<sub>2</sub>)<sub>u</sub>O-;

271 R<sup>124</sup>, at each occurrence, independently is selected from the group consisting of:

272 (a) H, (b) F, (c) Cl, (d) Br, (e) I, (f) CN, (g) -OR<sup>114</sup>, (h) -NO<sub>2</sub>, (i) -NR<sup>114</sup>R<sup>114</sup>, (j)  
273 C<sub>1-6</sub> alkyl, (k) C<sub>1-6</sub> acyl, and (l) C<sub>1-6</sub> alkoxy;

274 R<sup>125</sup> is selected from the group consisting of:

275 (a) C<sub>1-6</sub> alkyl, (b) C<sub>2-6</sub> alkenyl, (c) C<sub>2-6</sub> alkynyl, (d) C<sub>1-6</sub> acyl, (e) C<sub>1-6</sub> alkoxy,  
276 (f) C<sub>1-6</sub> alkylthio, (g) saturated, unsaturated, or aromatic C<sub>5-10</sub> carbocycle,  
277 (h) saturated, unsaturated, or aromatic 5-10 membered heterocycle containing one  
278 or more heteroatoms selected from the group consisting of nitrogen, oxygen, and  
279 sulfur, (i) -O-C<sub>1-6</sub> alkyl-saturated, unsaturated, or aromatic 5-10 membered  
280 heterocycle containing one or more heteroatoms selected from the group  
281 consisting of nitrogen, oxygen, and sulfur, (j) -NR<sup>114</sup>-C<sub>1-6</sub> alkyl-saturated,  
282 unsaturated, or aromatic 5-10 membered heterocycle containing one or more  
283 heteroatoms selected from the group consisting of nitrogen, oxygen, and sulfur,  
284 (k) saturated, unsaturated, or aromatic 10-membered bicyclic ring system  
285 optionally containing one or more heteroatoms selected from the group consisting  
286 of nitrogen, oxygen, and sulfur, (l) saturated, unsaturated, or aromatic 13-  
287 membered tricyclic ring system optionally containing one or more heteroatoms  
288 selected from the group consisting of nitrogen, oxygen, and sulfur, (m) -OR<sup>114</sup>,  
289 (n) -NR<sup>114</sup>R<sup>114</sup>, (o) -S(O)<sub>p</sub>R<sup>114</sup>, and (p) -R<sup>124</sup>,

290 wherein any of (a)-(l) optionally is substituted with one or more R<sup>115</sup>  
291 groups;

292 alternatively, R<sup>125</sup> and one R<sup>124</sup> group, taken together with the atoms to which they are  
293 bonded, form a 5-7 membered saturated or unsaturated carbocycle, optionally substituted with  
294 one or more R<sup>115</sup> groups; or a 5-7 membered saturated or unsaturated heterocycle containing one  
295 or more atoms selected from the group consisting of nitrogen, oxygen, and sulfur, and optionally  
296 substituted with one or more R<sup>115</sup> groups;

297 R<sup>126</sup> at each occurrence, independently is selected from the group consisting of:

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(a) hydrogen, (b) an electron-withdrawing group, (c) aryl, (d) substituted aryl,  
(e) heteroaryl, (f) substituted heteroaryl, and (g) C<sub>1-6</sub> alkyl, optionally substituted  
with one or more R<sup>115</sup> groups;  
alternatively, any R<sup>126</sup> and any R<sup>123</sup>, taken together with the atoms to which they are  
bonded, form a 5-7 membered saturated or unsaturated carbocycle, optionally substituted with  
one or more R<sup>115</sup> groups; or a 5-7 membered saturated or unsaturated heterocycle containing one  
or more atoms selected from the group consisting of nitrogen, oxygen, and sulfur, and optionally  
substituted with one or more R<sup>115</sup> groups;

306                    R<sup>109</sup> is H or F;

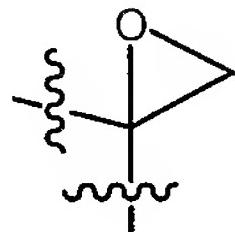
307 R<sup>127</sup> is R<sup>114</sup>, a monosaccharide or disaccharide (including amino sugars and halo sugar(s),  
 308 -(CH<sub>2</sub>)<sub>n</sub>-(O-CH<sub>2</sub>CH<sub>2</sub>-)<sub>m</sub>-O(CH<sub>2</sub>)<sub>p</sub>CH<sub>3</sub> or -(CH<sub>2</sub>)<sub>n</sub>-(O-CH<sub>2</sub>CH<sub>2</sub>-)<sub>m</sub>-OH

309 R<sup>128</sup> is R<sup>114</sup>

310                    R<sup>129</sup> is R<sup>114</sup>

311 R<sup>110</sup> is R<sup>114</sup>

312        Alternatively, R<sup>109</sup> and R<sup>110</sup> taken together with the carbons to which they are attached  
313        form:



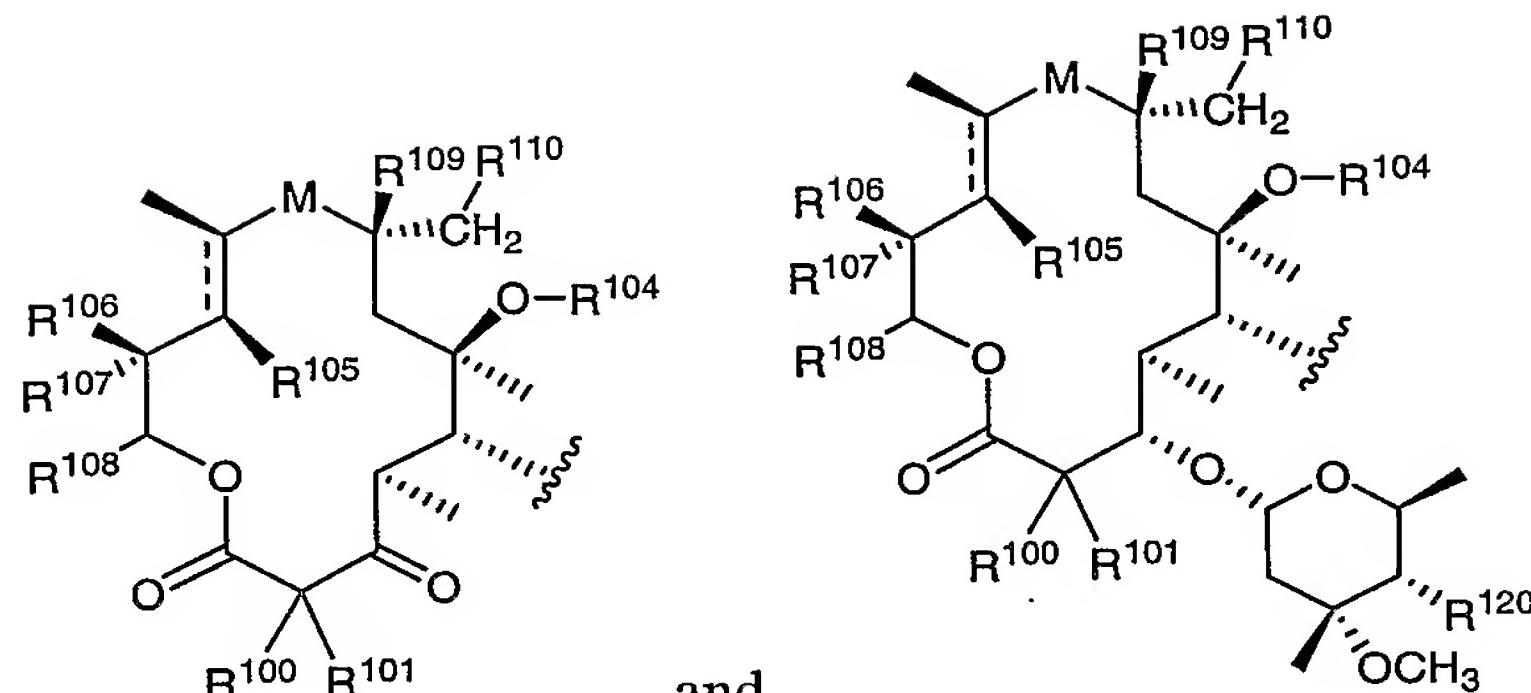
314  
315       Alternately, R<sup>128</sup> and R<sup>129</sup> together with the carbons to which they are attached form a 3-6  
316       membered saturated, unsaturated or aromatic carbocyclic or heterocyclic ring which may  
317       optionally be substituted with one or more R<sup>114</sup> groups;

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319 m, at each occurrence is 0, 1, 2, 3,

1        14. A compound according to any one of claims 1-13, wherein T is a macrolide  
2        selected from the group consisting of:

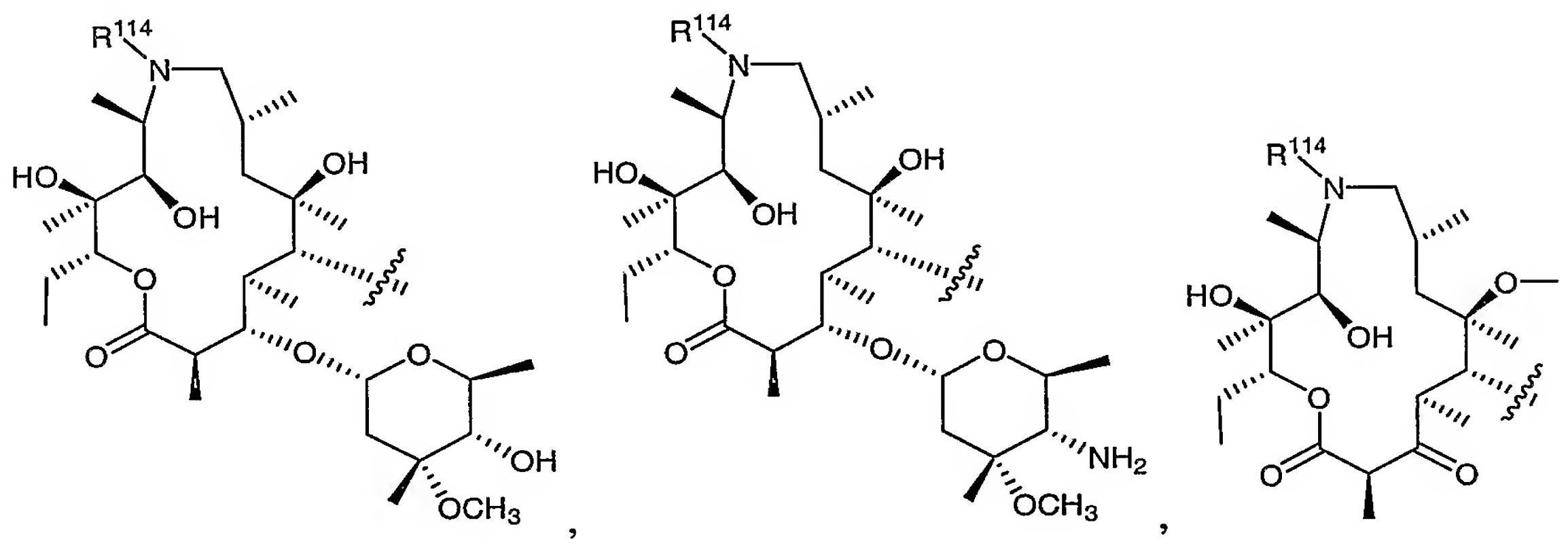
- 323 -



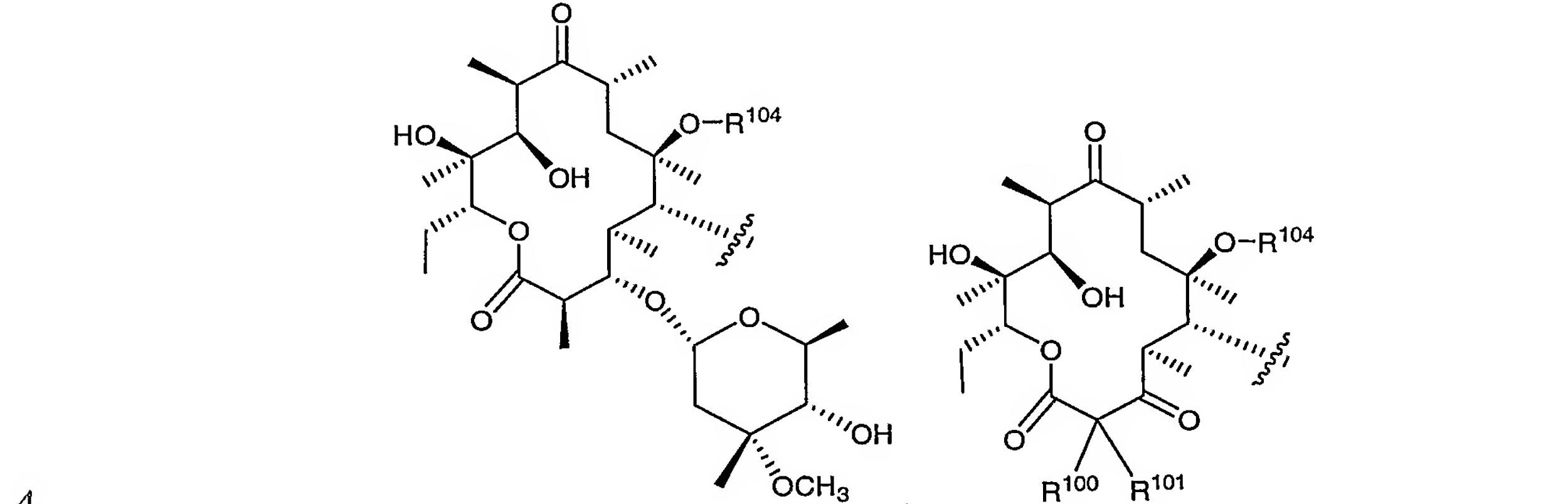
3 and

4 or an *N*-oxide pharmaceutically acceptable salt, ester, or prodrug thereof, wherein M, R<sup>100</sup>, R<sup>101</sup>,  
5 R<sup>104</sup>, R<sup>105</sup>, R<sup>106</sup>, R<sup>107</sup>, R<sup>108</sup>, R<sup>109</sup>, R<sup>110</sup>, and R<sup>120</sup> are as described in claim 13.

1 15. A compound according to any one of claims 1-14, wherein T is a macrolide  
2 selected from the group consisting of:



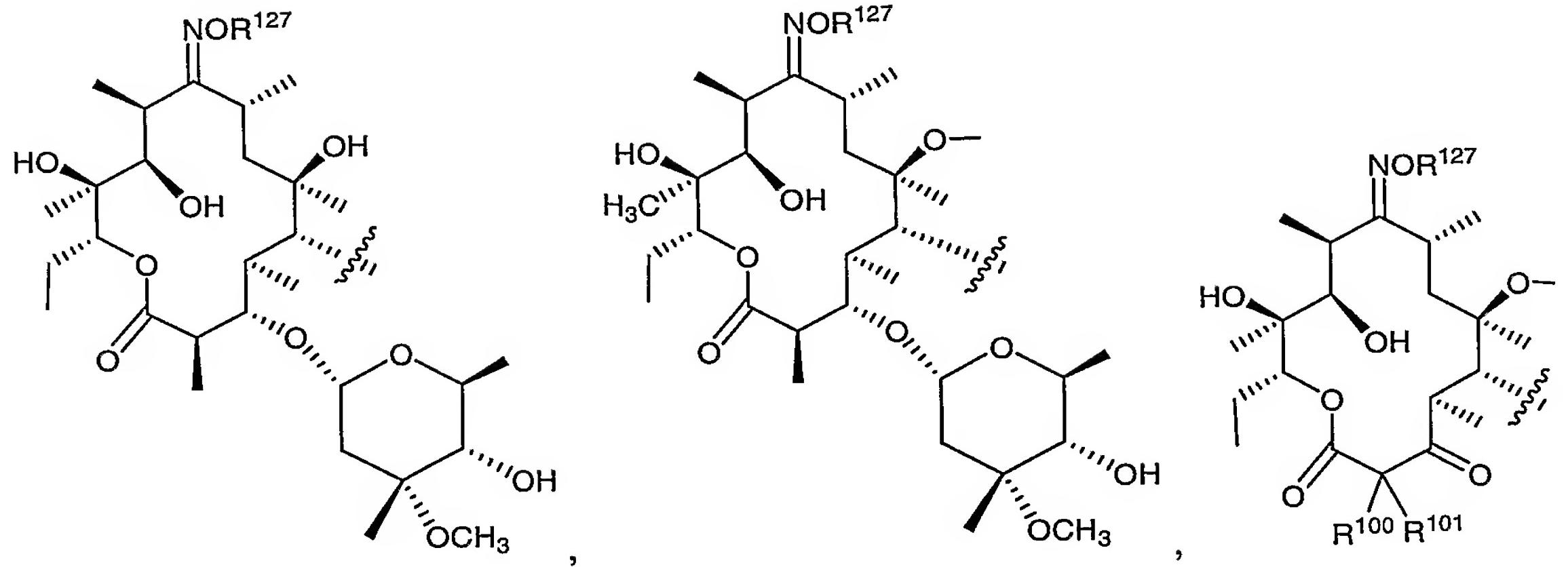
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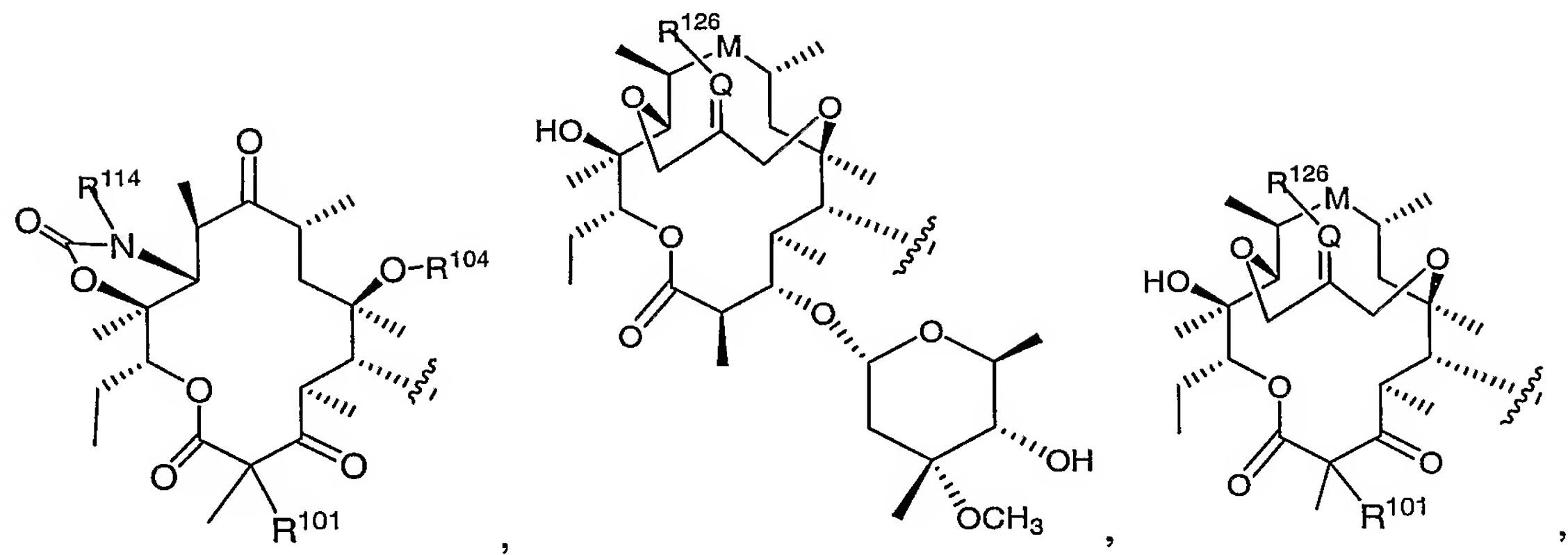
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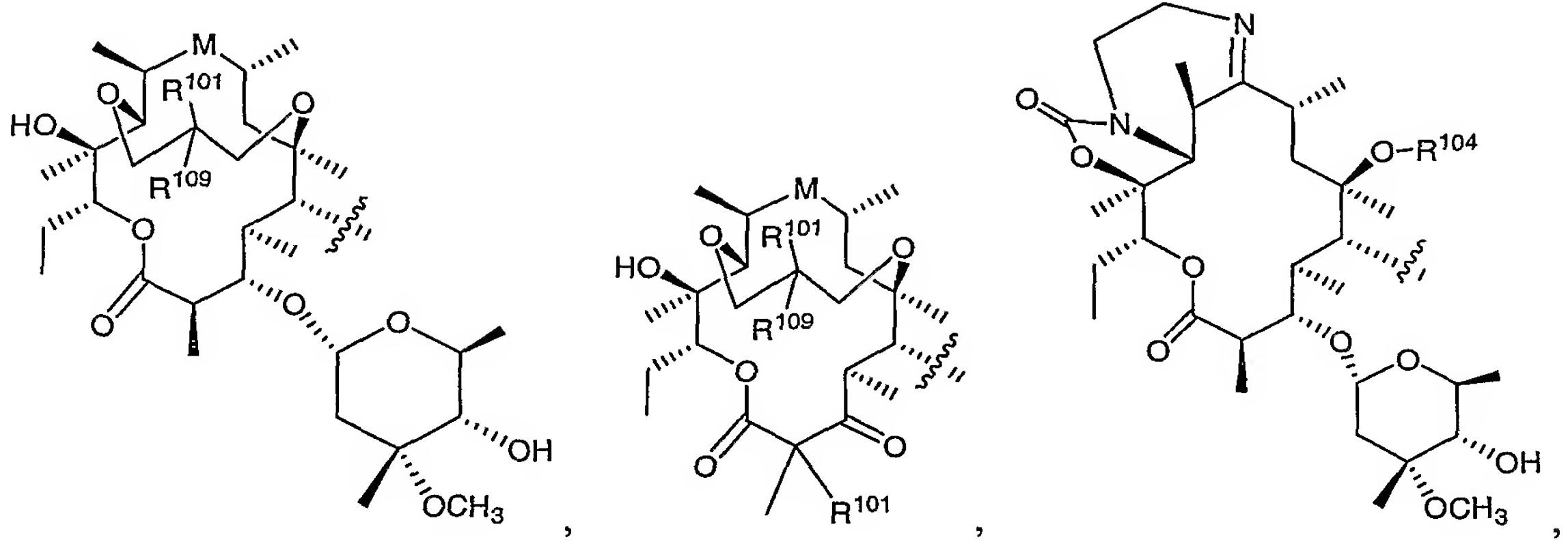
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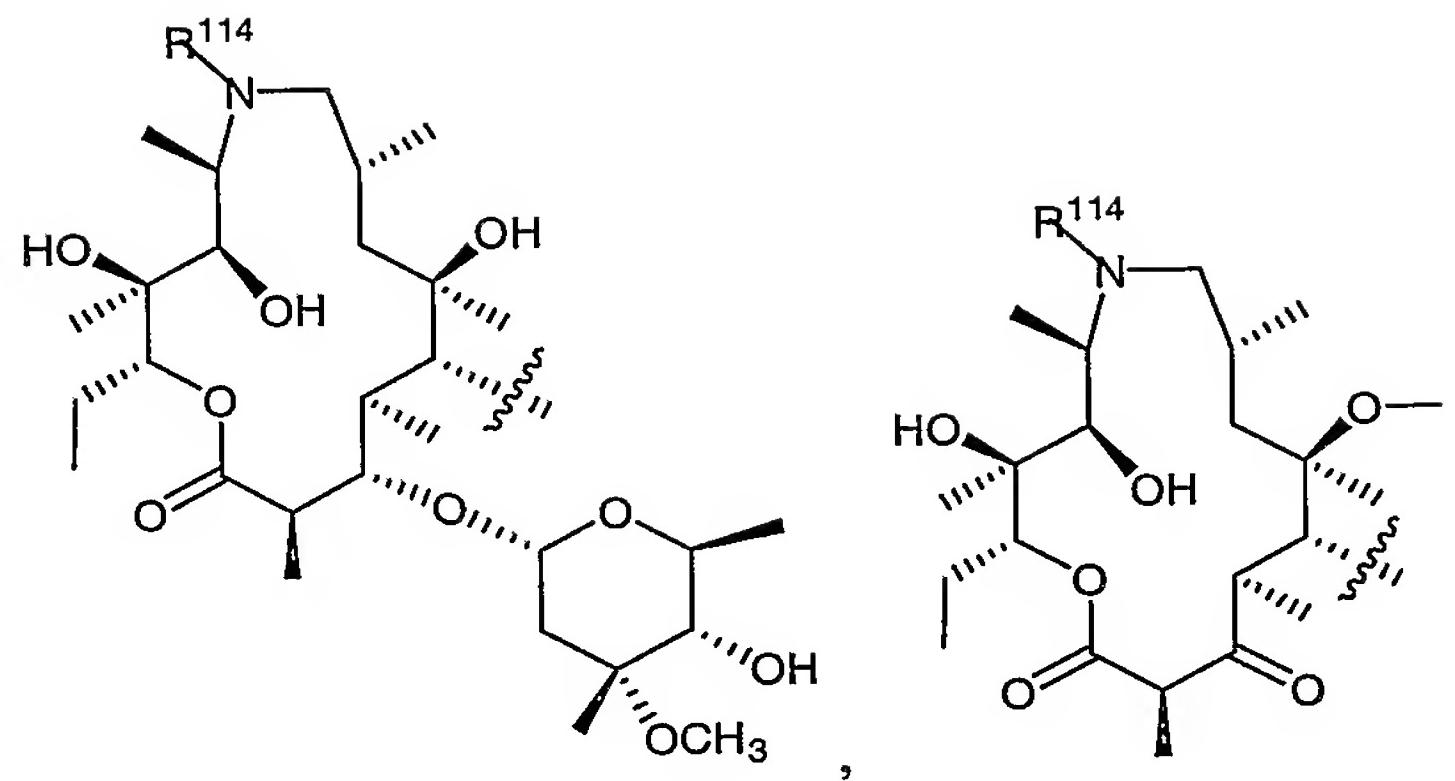
17 or an *N*-oxide pharmaceutically acceptable salt, ester, or prodrug thereof,

18 wherein M, R<sup>100</sup>, R<sup>101</sup>, R<sup>102</sup>, R<sup>104</sup>, R<sup>109</sup>, R<sup>114</sup>, R<sup>126</sup> and R<sup>127</sup> are as described in claim 13.

19

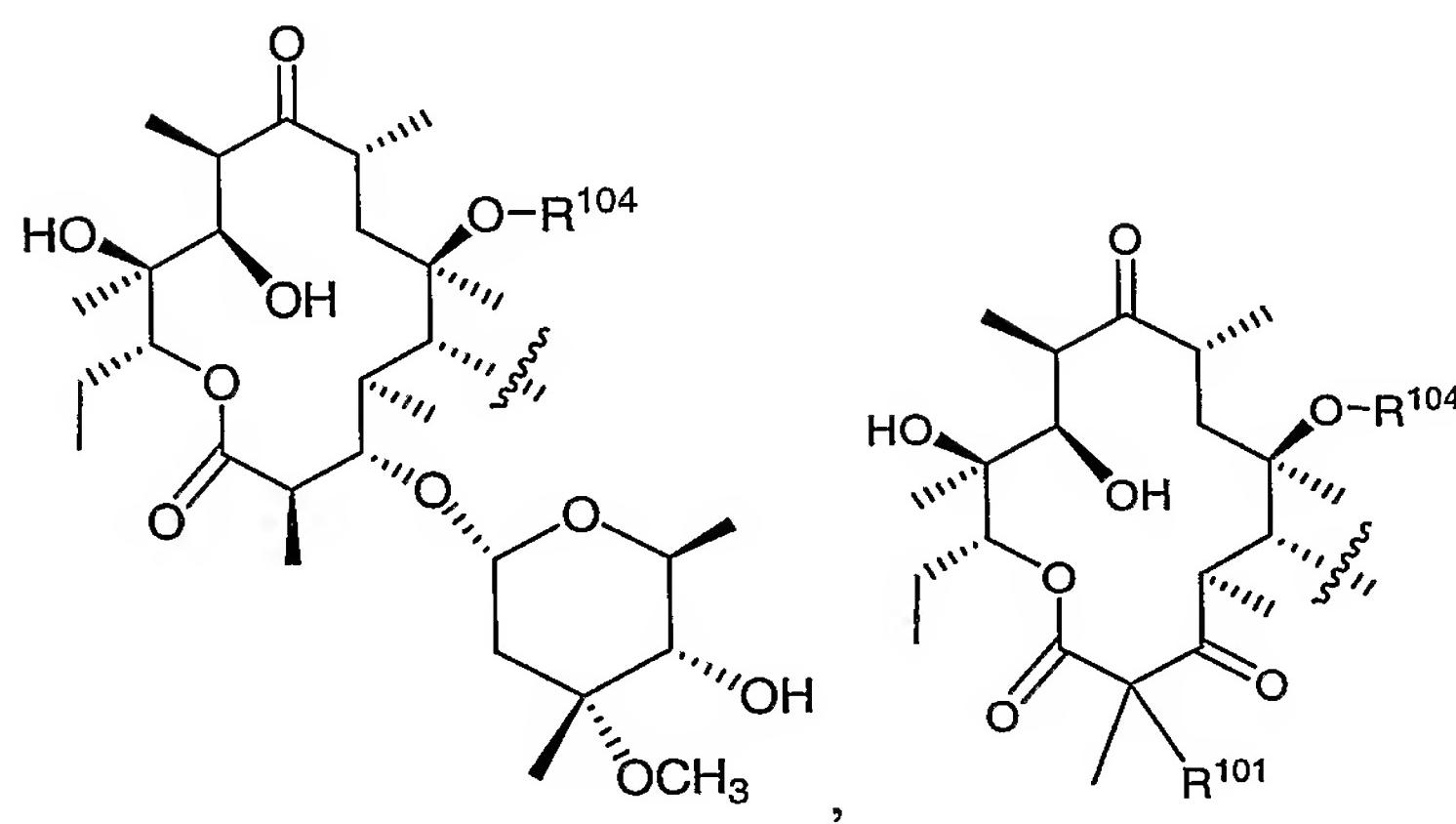
1 16. A compound according to any one of claims 1-15, wherein T is a macrolide  
2 selected from the group consisting of:

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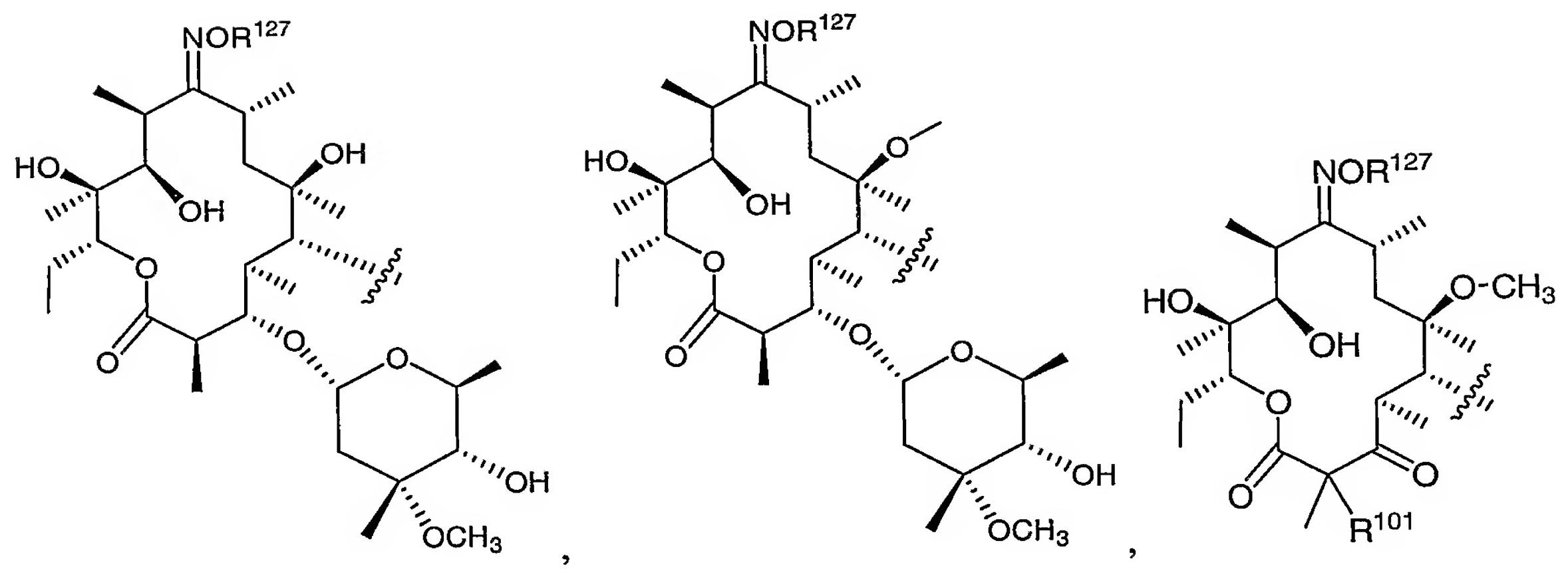
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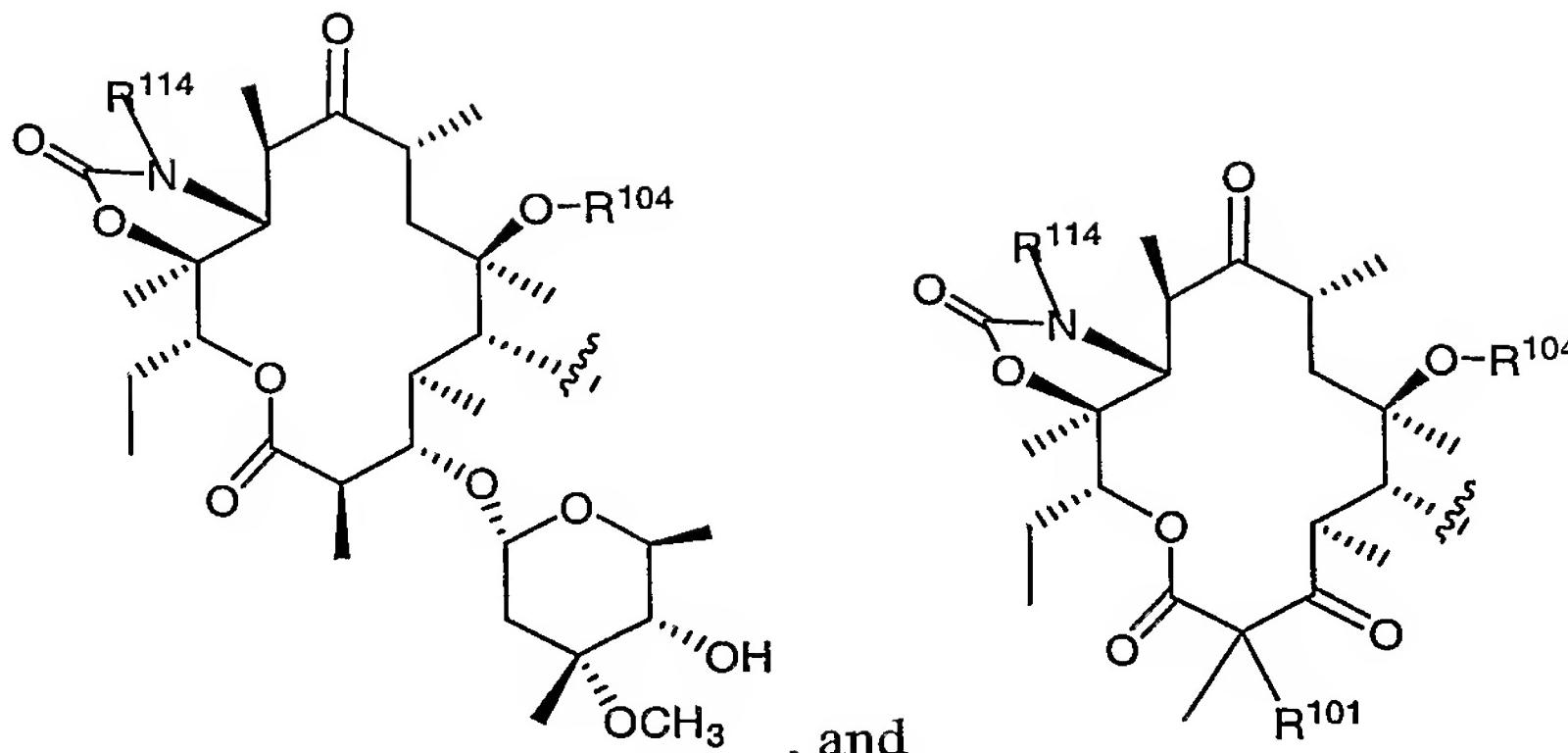
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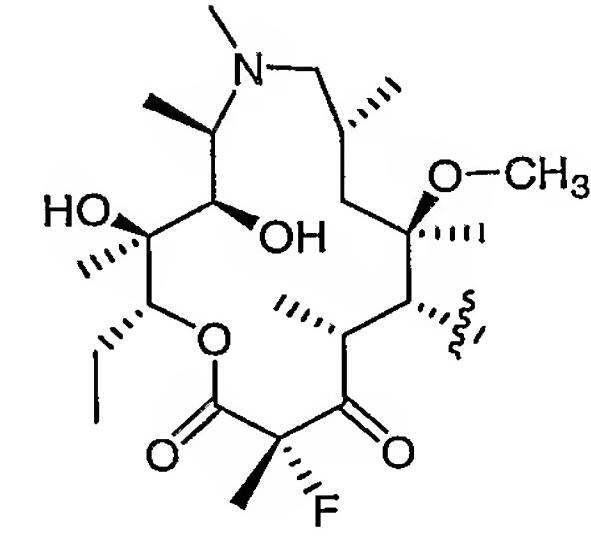
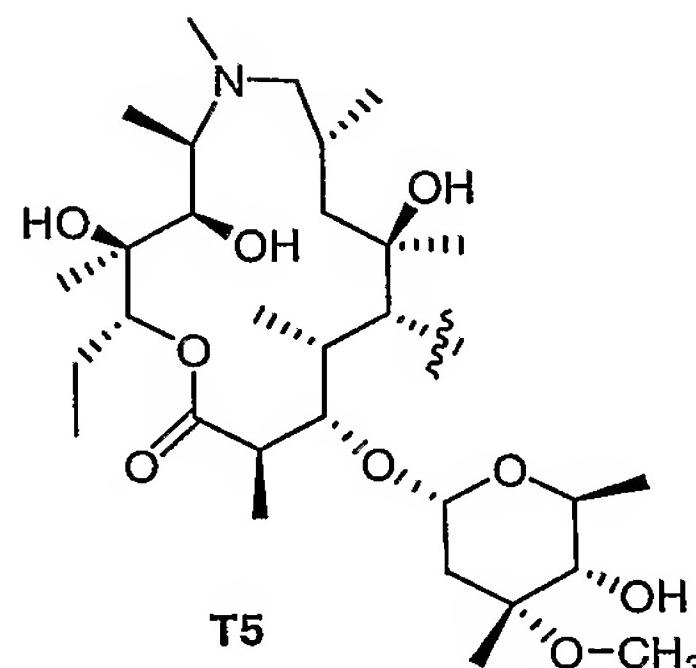
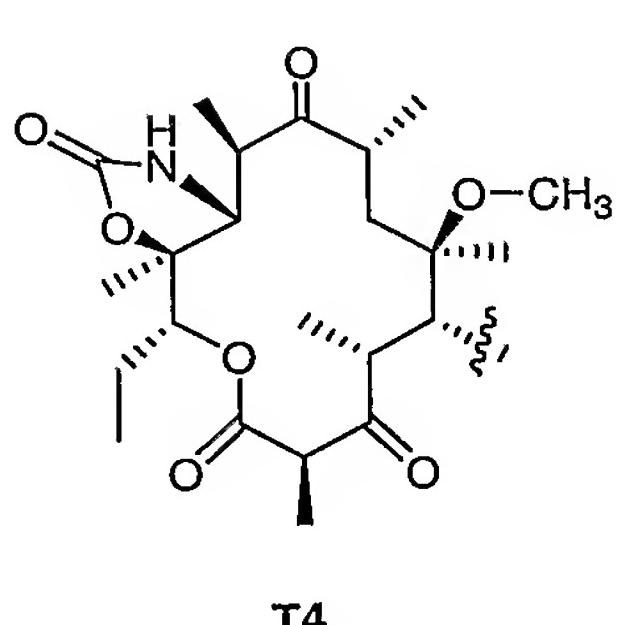
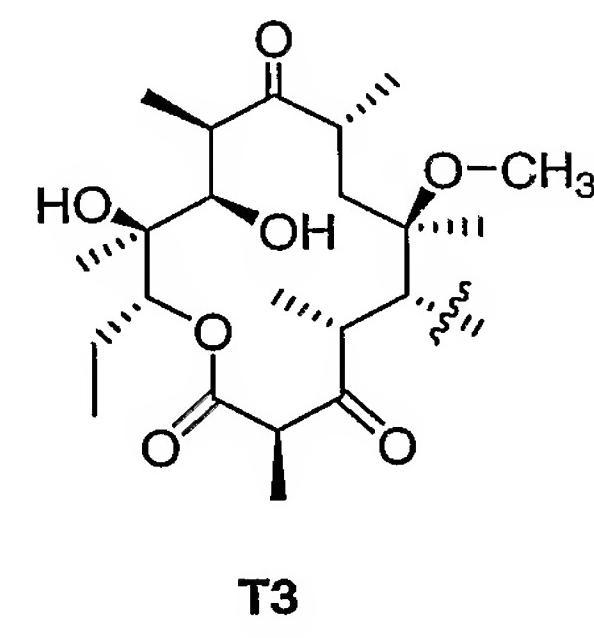
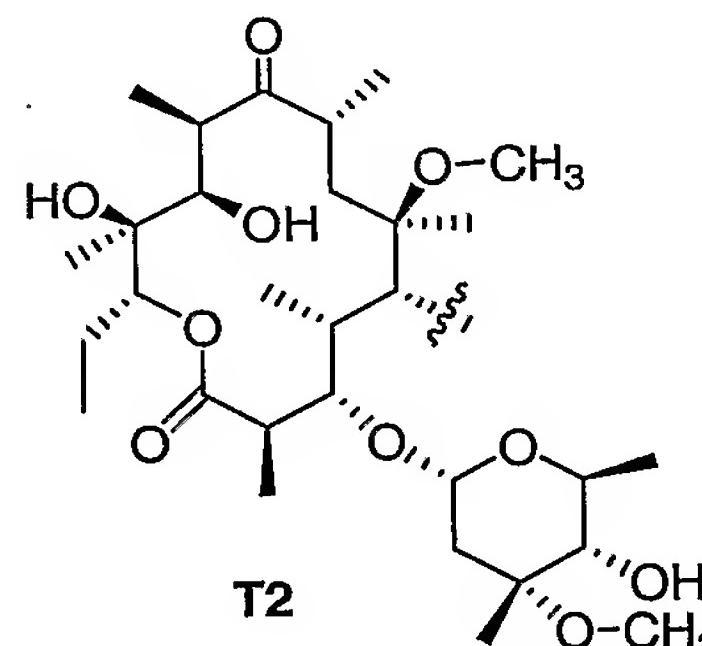
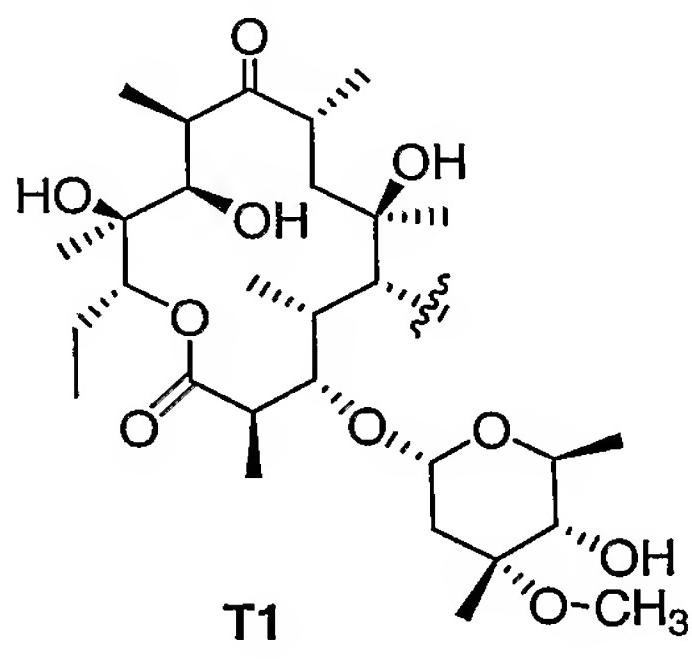


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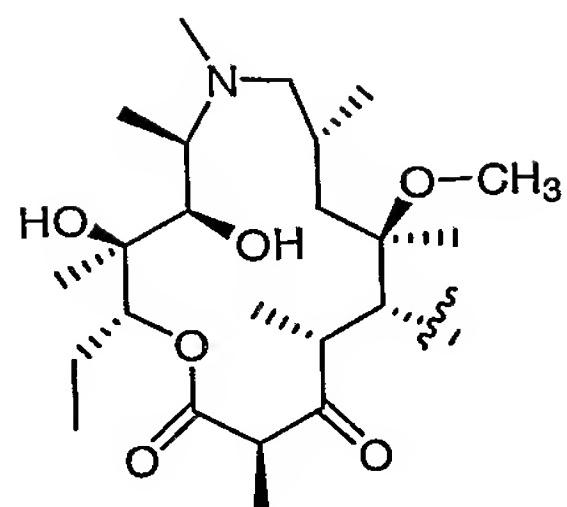
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11 or an *N*-oxide pharmaceutically acceptable salt, ester, or prodrug thereof,12 wherein M, R<sup>1</sup>, R<sup>2</sup>, R<sup>104</sup>, R<sup>114</sup>, R<sup>109</sup> and R<sup>127</sup> are as described in claim 13.

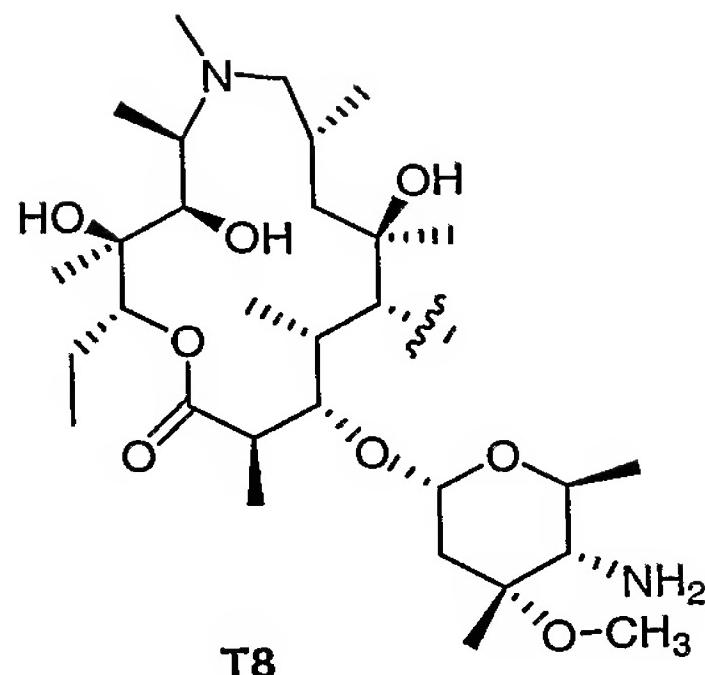
1 17. A compound according to any one of claims 1-16, wherein T is a macrolide  
2 selected from the group consisting of T1 through T33:

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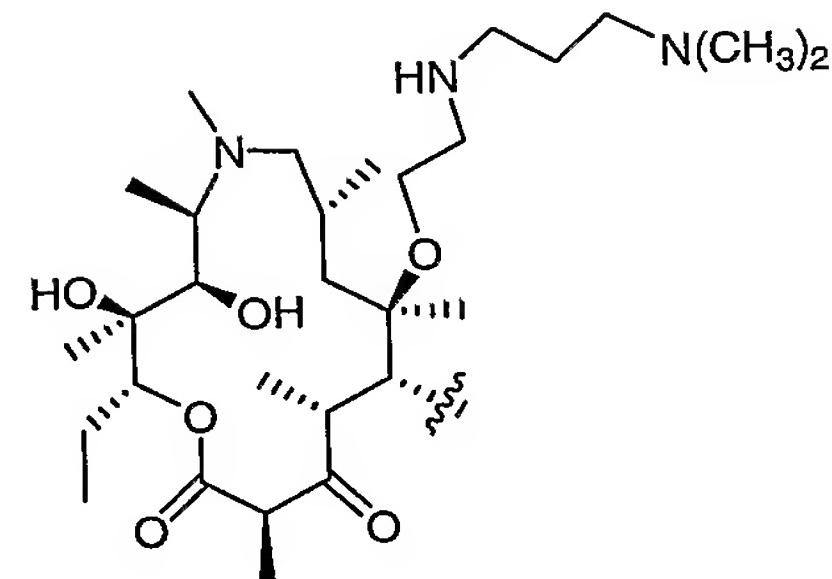
- 328 -



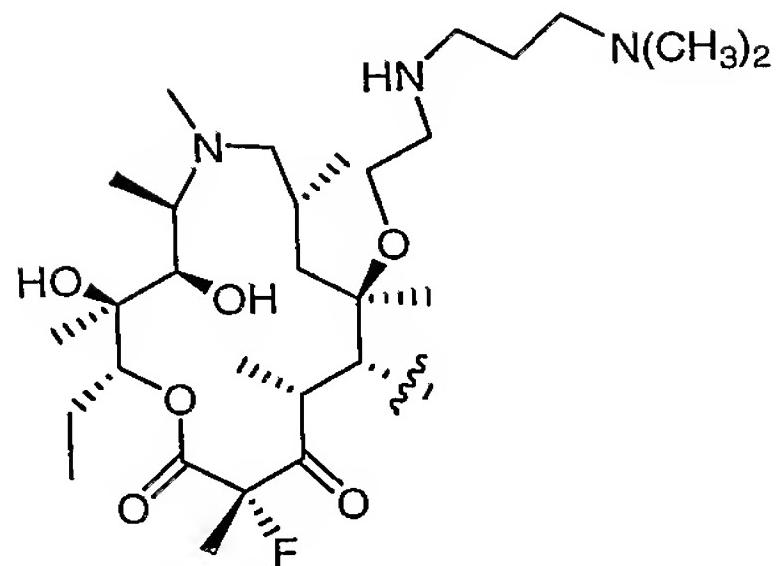
T7



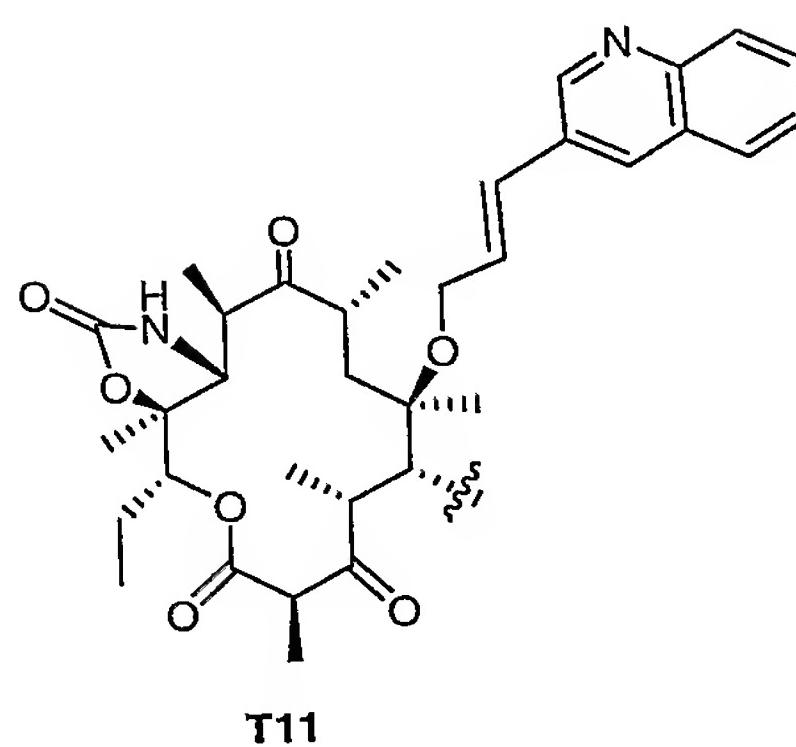
T8



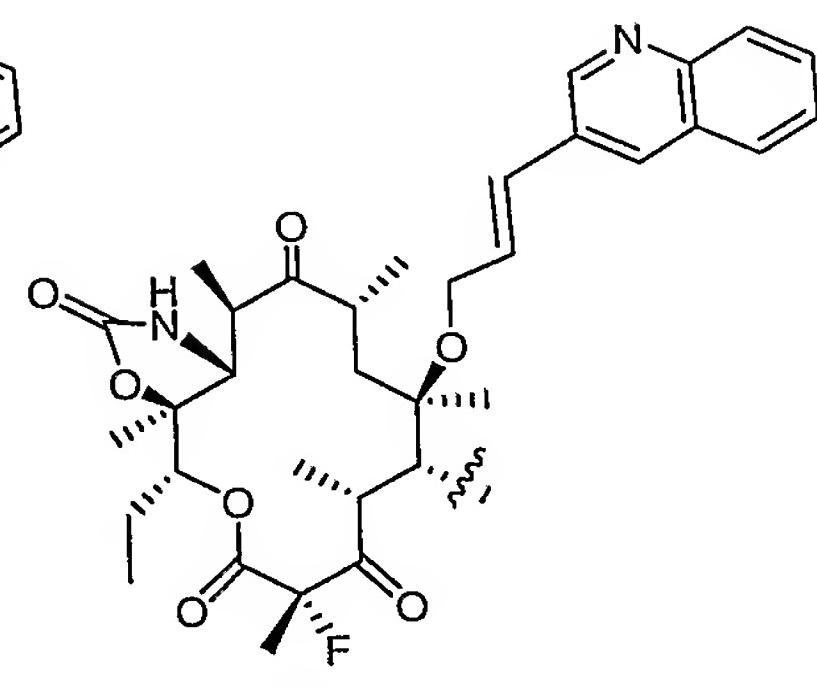
T9



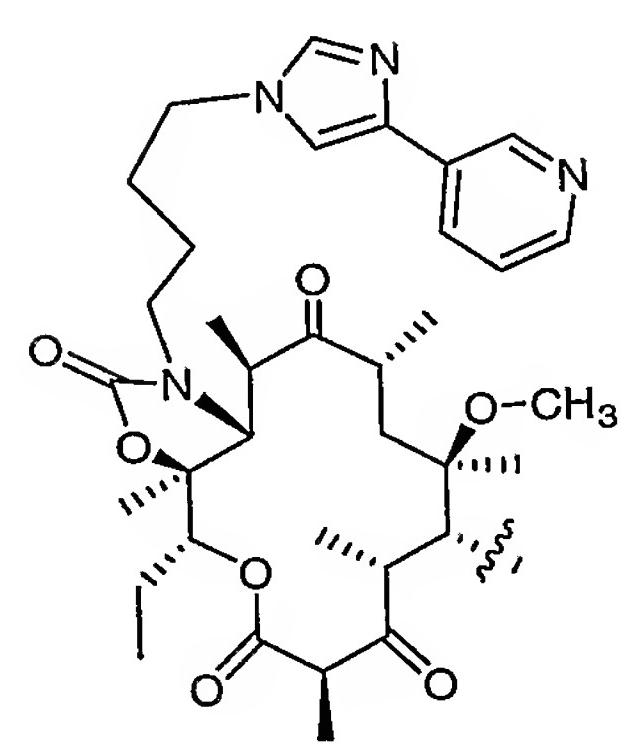
T10



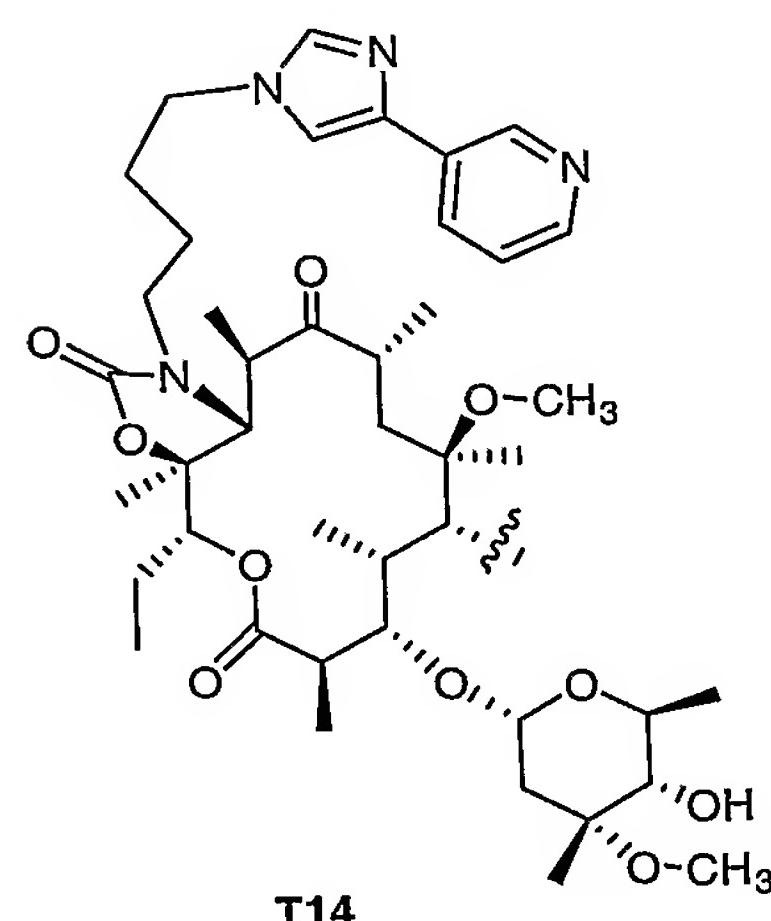
T11



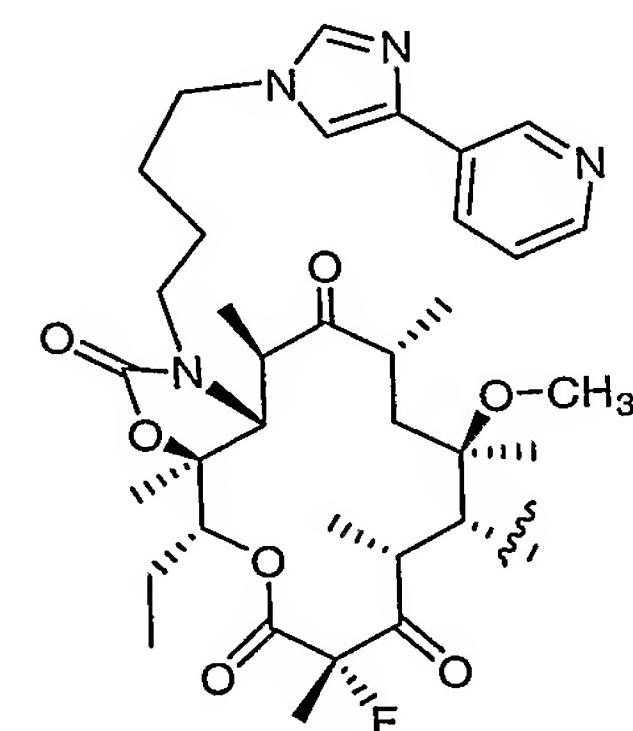
T12



T13



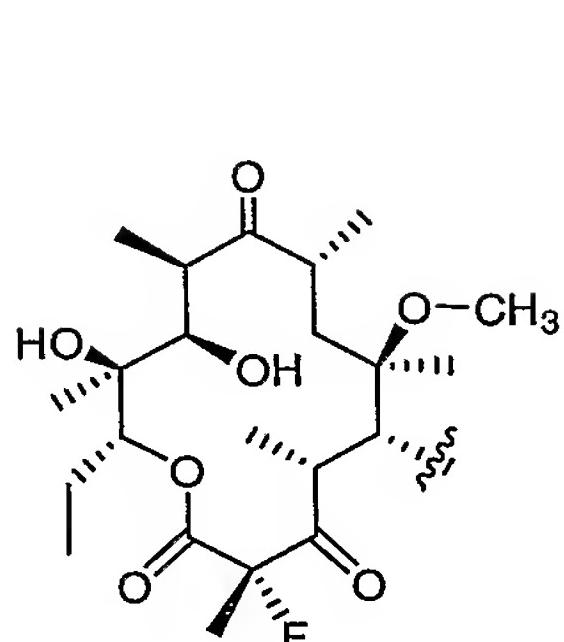
T14



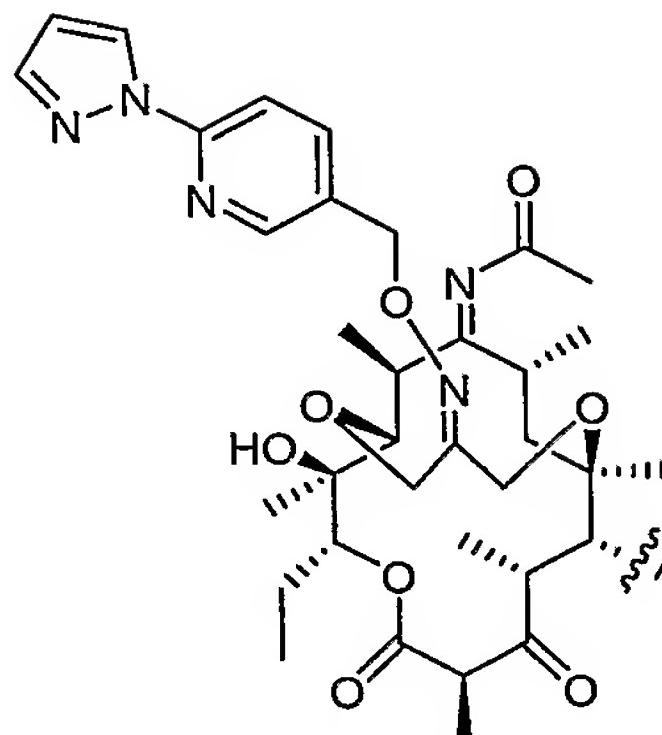
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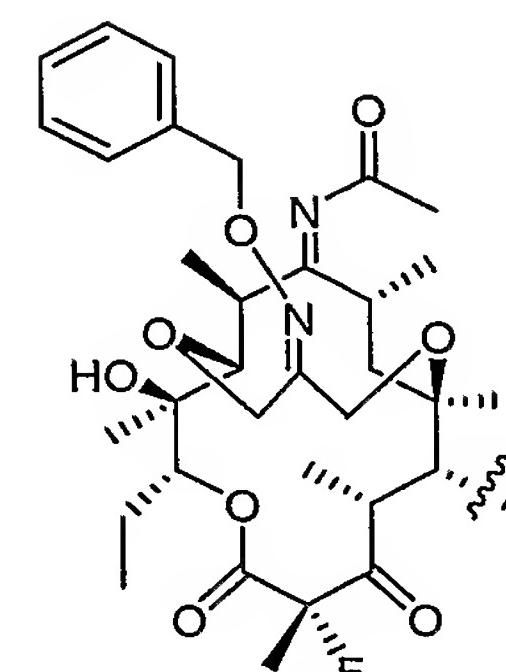
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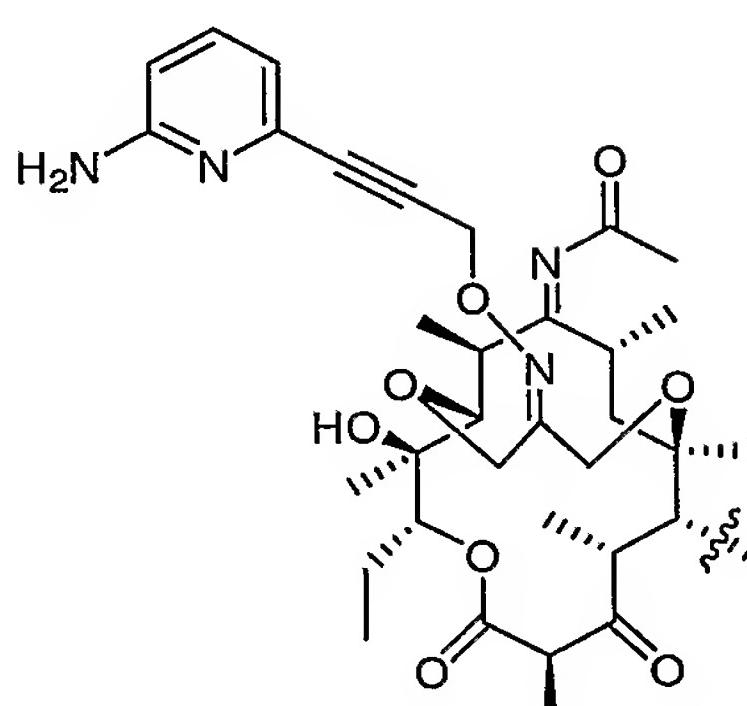
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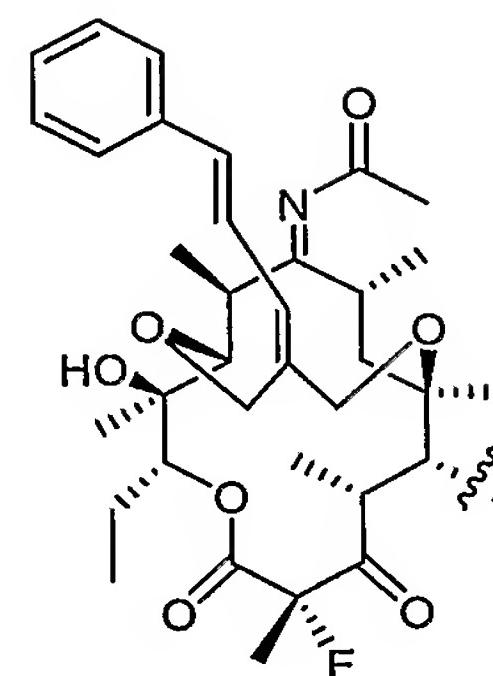
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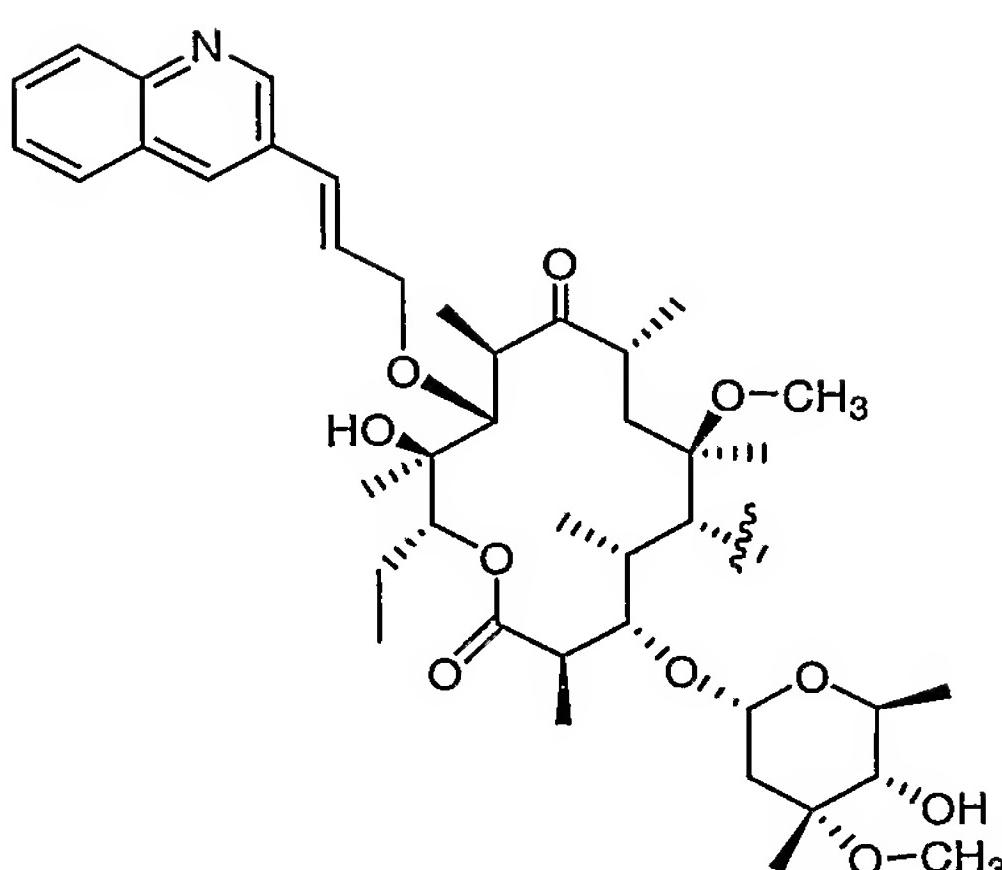
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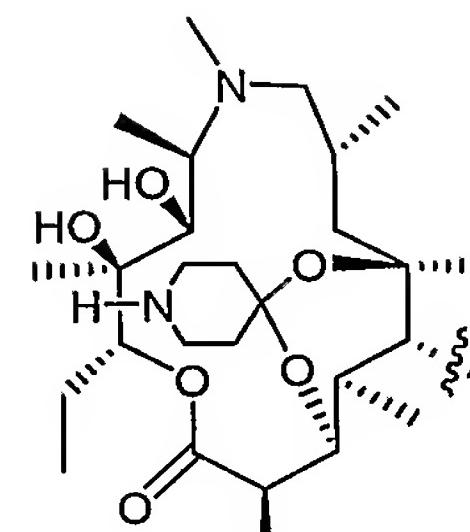
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T20



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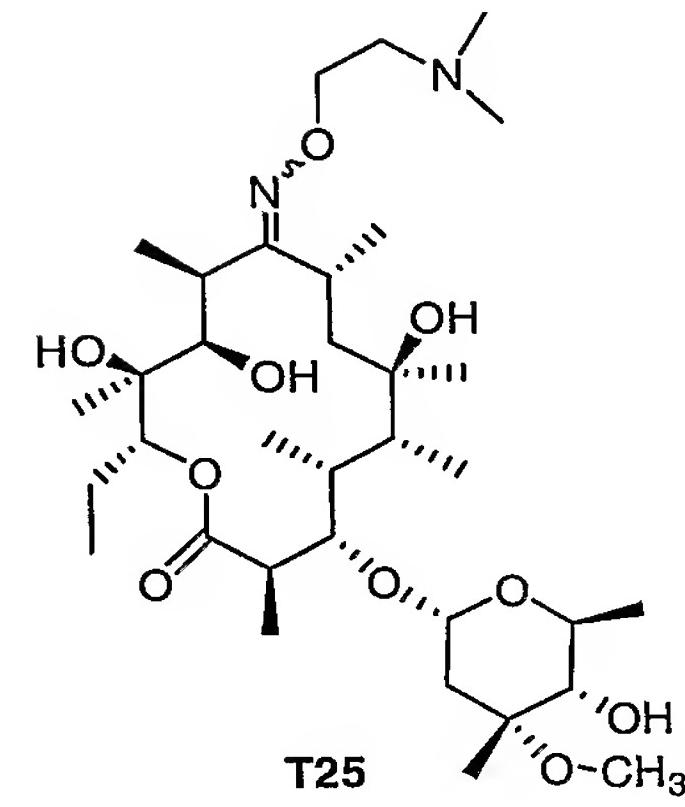
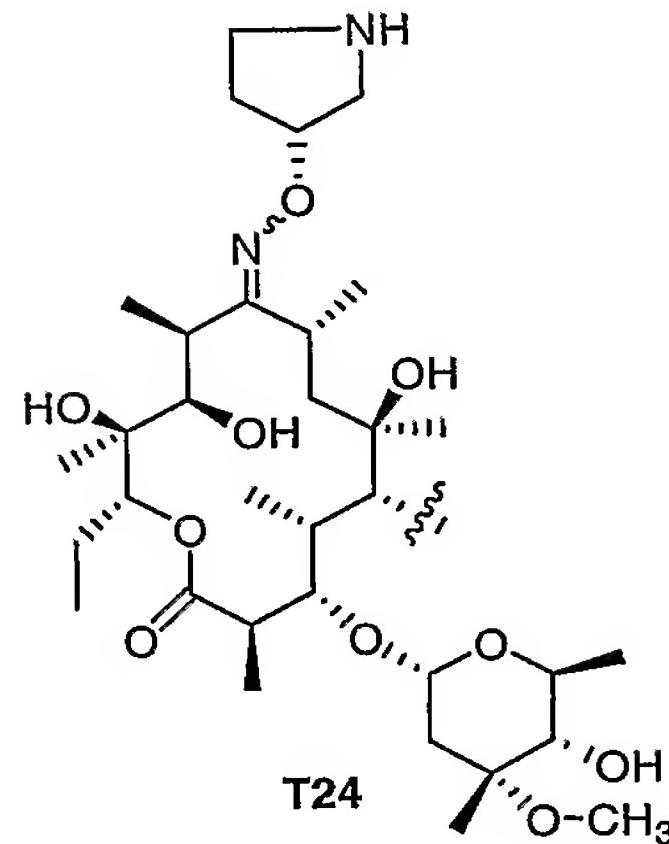
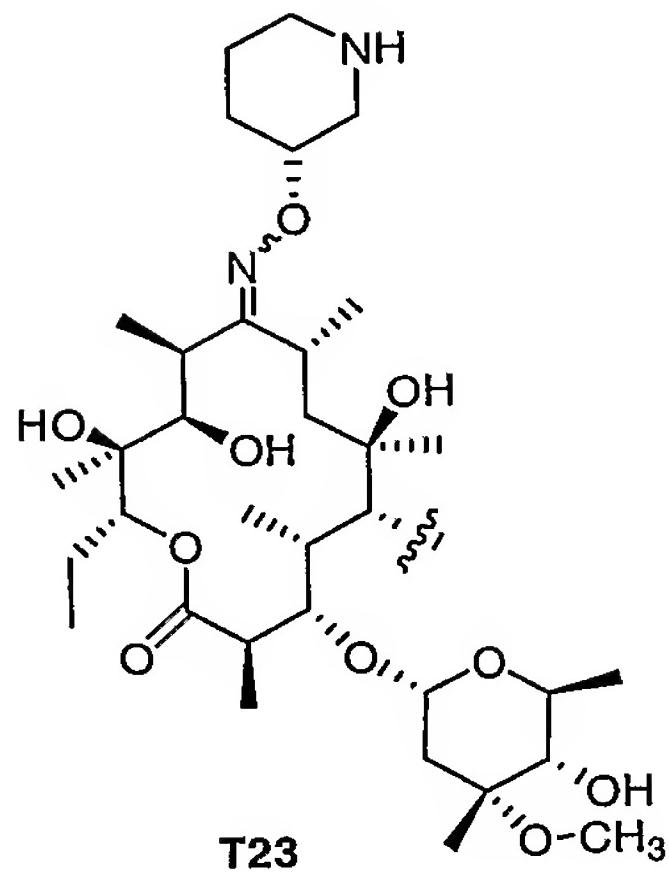
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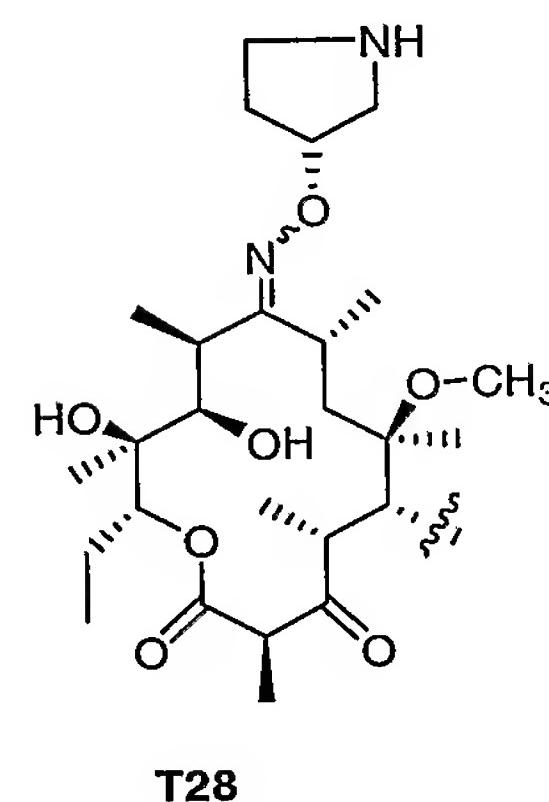
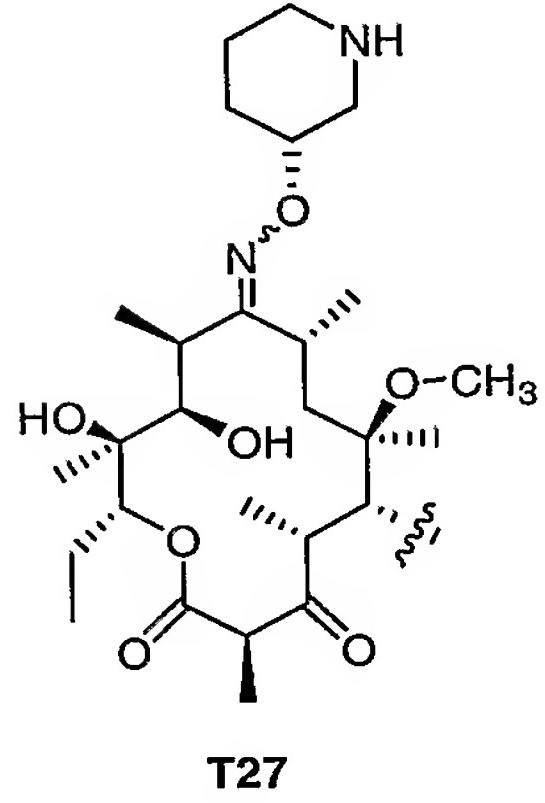
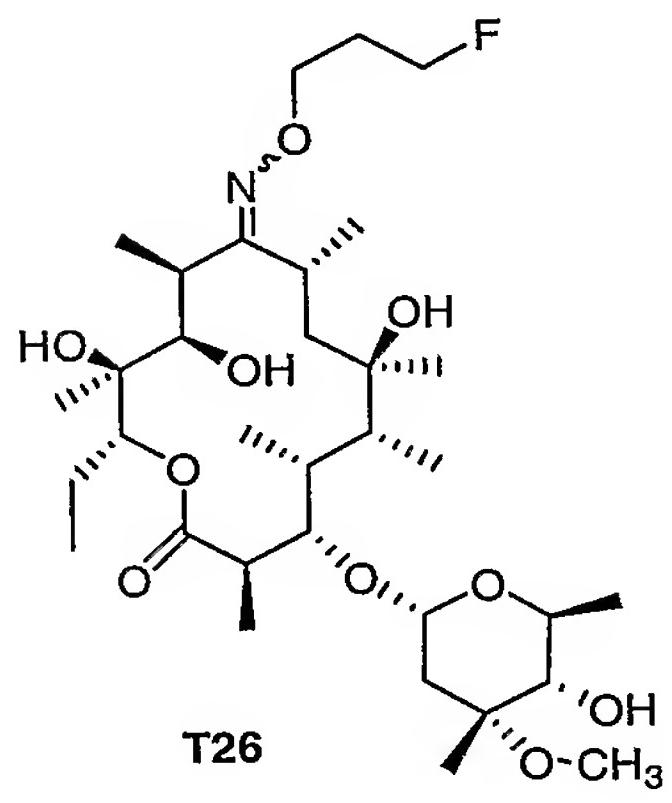
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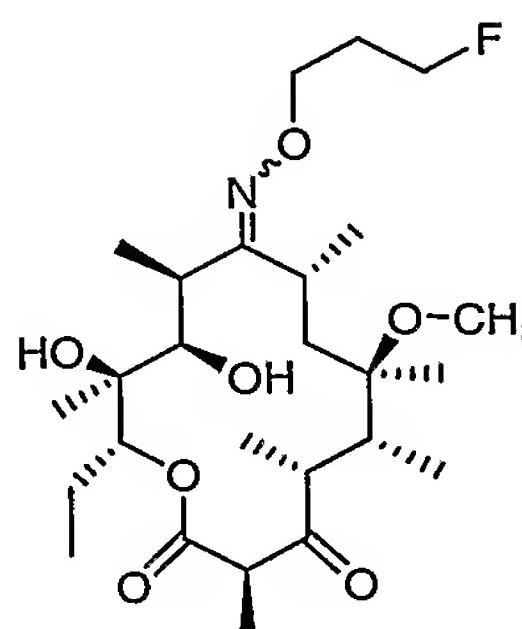
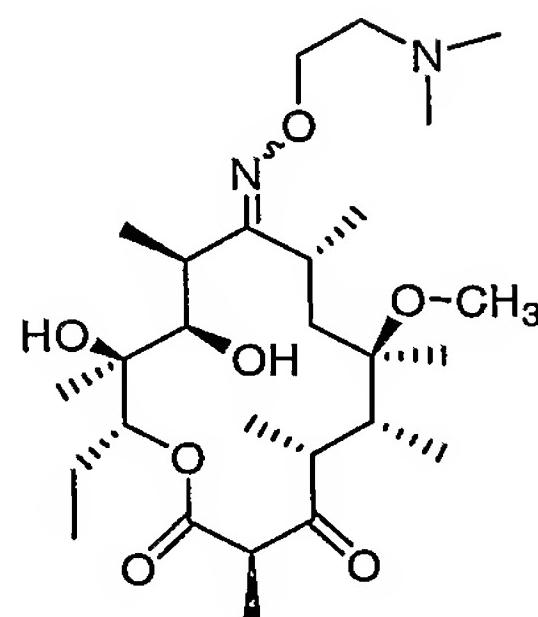
- 330 -



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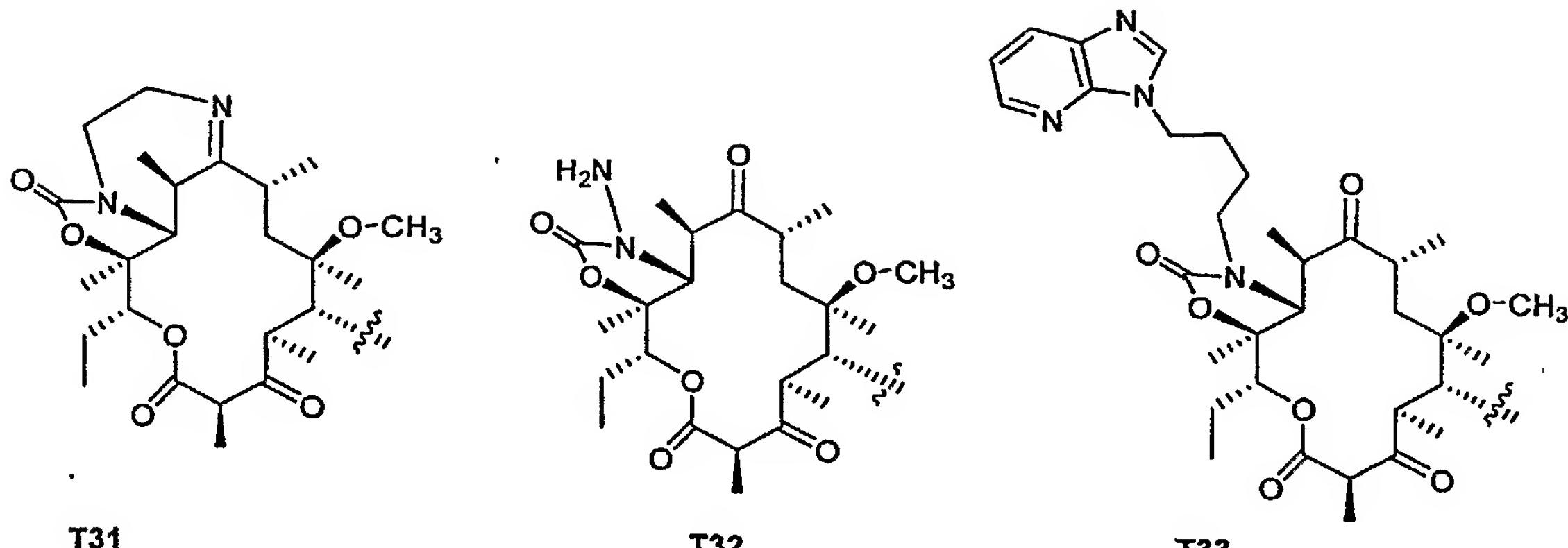


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1        18. A compound having the structure corresponding to any one of the structures listed  
2 in Table 1 or 13, or a pharmaceutically acceptable salt, ester, *N*-oxide, or prodrug thereof.

1        19. A pharmaceutical composition comprising a compound according to any one of  
2 claims 1-18 and a pharmaceutically acceptable carrier.

1        20. A method for treating or preventing a disease state in a mammal comprising  
2 administering to a mammal in need thereof an effective amount of a compound according to any  
3 one of claims 1-18.

1        21. A method of treating a microbial infection in a mammal comprising administering  
2 to the mammal an effective amount of a compound according to any one of claims 1-18.

1        22. A method of treating a fungal infection in a mammal comprising administering to  
2 the mammal an effective amount of a compound according to any one of claims 1-18.

1        23. A method of treating a parasitic disease in a mammal comprising administering to  
2 the mammal an effective amount of a compound according to any one of claims 1-18.

1        24. A method of treating a proliferative disease in a mammal comprising  
2 administering to the mammal an effective amount of a compound according to any one of claims  
3 1-18.

1        25. A method of treating a viral infection in a mammal comprising administering to  
2 the mammal an effective amount of a compound according to any one of claims 1-18.

1        26. A method of treating an inflammatory disease in a mammal comprising  
2 administering to the mammal an effective amount of a compound according to any one of claims  
3 1-18.

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1           27. A method of treating a gastrointestinal motility disorder in a mammal comprising  
2 administering to the mammal an effective amount of a compound according to any one of claims  
3 . 1-18.

1           28. A method of treating or preventing a disease state in a mammal caused or  
2 mediated by a nonsense or missense mutation comprising administering to a mammal in need  
3 thereof an effective amount of a compound according to any one of claims 1-18 to suppress  
4 expression of the nonsense or missense mutation.

1           29. The method according to any one of claims 20-26 wherein the compound is  
2 administered orally, parentally, or topically.

1           30. A method of synthesizing a compound according to any of claims 1-18.

1           31. A medical device containing a compound according to any one of claims 1-18.

1           32. The medical device according to claim 31, wherein the device is a stent.